Trains

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October, 1943

Trains

Volume 3 Number 12

Easy Come, Easy Go. *By A. C. Kalmbach.* - - 3

One for the Books. *By J. P. Connolly.* - - - 17

The Man in the Tower. *By Edward Hungerford.* - 18

The Railroads of Switzerland. *By Fred Eidenbenz.* - 21

Map of Swiss Railroads. *By Linn H. Westcott.* - 24

Peachy. *By William Moedinger Jr.* - - - 37

Illinois Central 2-4-4T. *Photo and specifications.* - 44

4-8-4 Locomotives. *Delaware & Hudson; Southern Pacific.* 46

THE Old South Park narrow-gauge has made its last run. In its day the Denver, South Park & Pacific [watch for feature article next month] was one of the most spectacular successes in Western railroading, but now it is gone. The last narrow-gauge train ran over the 14 remaining miles, now Colorado & Southern, from Climax to Leadville, Colo., on August 25, and the next day standard-gauge operation began over the same route.

We mourn the passing of a historic narrow-gauge line, but at the same time we are gratified to see one more link added to the standard-gauge transportation system of the United States. It is uniformity of railroad gauge which has made this country industrially great, and the narrow-gauge, despite its romantic appeal, is the one stumbling block in the way of single-car shipment from any freight station or siding to any other freight station or siding.

Romantic appeal never paid dividends. Efficient transportation does pay. In the '70's and '80's the narrow-gauges were efficient transportation, vastly more efficient than the wagons of that day. But now, without countrywide interchange and without all the economies of standard gauge, they can hardly hope to compete with trucks over hard-surfaced roads. After the war the remaining Colorado three-foot-gauge mileage is bound to shrink through further conversions to standard and through abandonments. Those who wish to experience first-hand the incomparably different thrill of riding the narrow cars had better get out West soon after Victory and take that ride.

Trains is now stitched with a single wire staple because of a W. P. B. order, not because of false economy. We'll be back to two stitches as soon as it's allowed.

In spite of vastly increased loads, with the same locomotives and much the same schedules, trains are in most cases making their running time between stations. Late trains can almost always be charged to delays at stops rather than to slow running, and late trains are usually those carrying a good deal of express and mail traffic, not the solid-passenger limiteds. Some roads are coping with the problem of increased head-end business by running special sections to take care of express and mail, but more of this is prevented by the O. D. T. freezing of schedules. That freeze, incidentally, has the very good purpose of forcing more load onto each engine. Where equipment is turned around very quickly at the end of run, a bit of lateness may defeat the purpose of the order, but in most cases we'll take a late train in preference to any possibility of motive-power shortage.

Speaking of quick turnarounds, the North Western's "Commuter 400" is scheduled to turn around in Milwaukee every morning in 15 minutes flat and be off for Chicago, whence it came. With more passengers of late, loading and unloading keeps the train as much as five minutes overtime, but this is usually made up on the 85-mile return trip. Not bad, with a 75-minute schedule and three stops!

One of the operating problems in connection with the Milwaukee Road's West Coast extension is the 227-mile Idaho Division, connecting the two electrified divisions and running across the hilly country of the wide Columbia River Valley. The object, of course, is to handle across this bridge division the same 5000-ton trains that can be handled over the mountains by the giant electric locomotives, and thus avoid breakup of trains at division points. Now, with a West Coast war, the traffic has changed to predominantly westbound. A 5400-horsepower Diesel freight locomotive was purchased a year ago not only to replace worn-out steam locomotives, but as an experiment in bridging the gap between the electrics with full-tonnage trains. It was also possible to substantially quicken the schedule. The experiment apparently worked out well, for a second four-unit Diesel has just been purchased and assigned to the Idaho Division.

A. C. Kalmbach.

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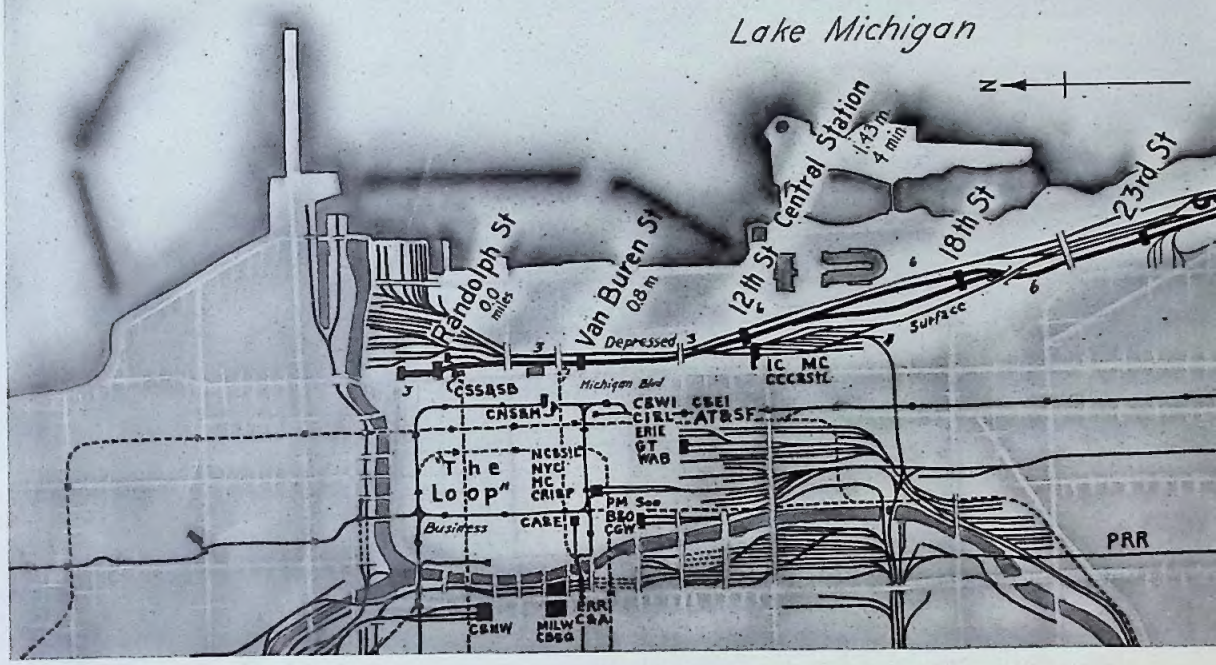
Easy Come, Easy Go

★ Illinois Central has built a big Chicago suburban business by frequent and fast electrified service.

By A. C. Kalmbach.

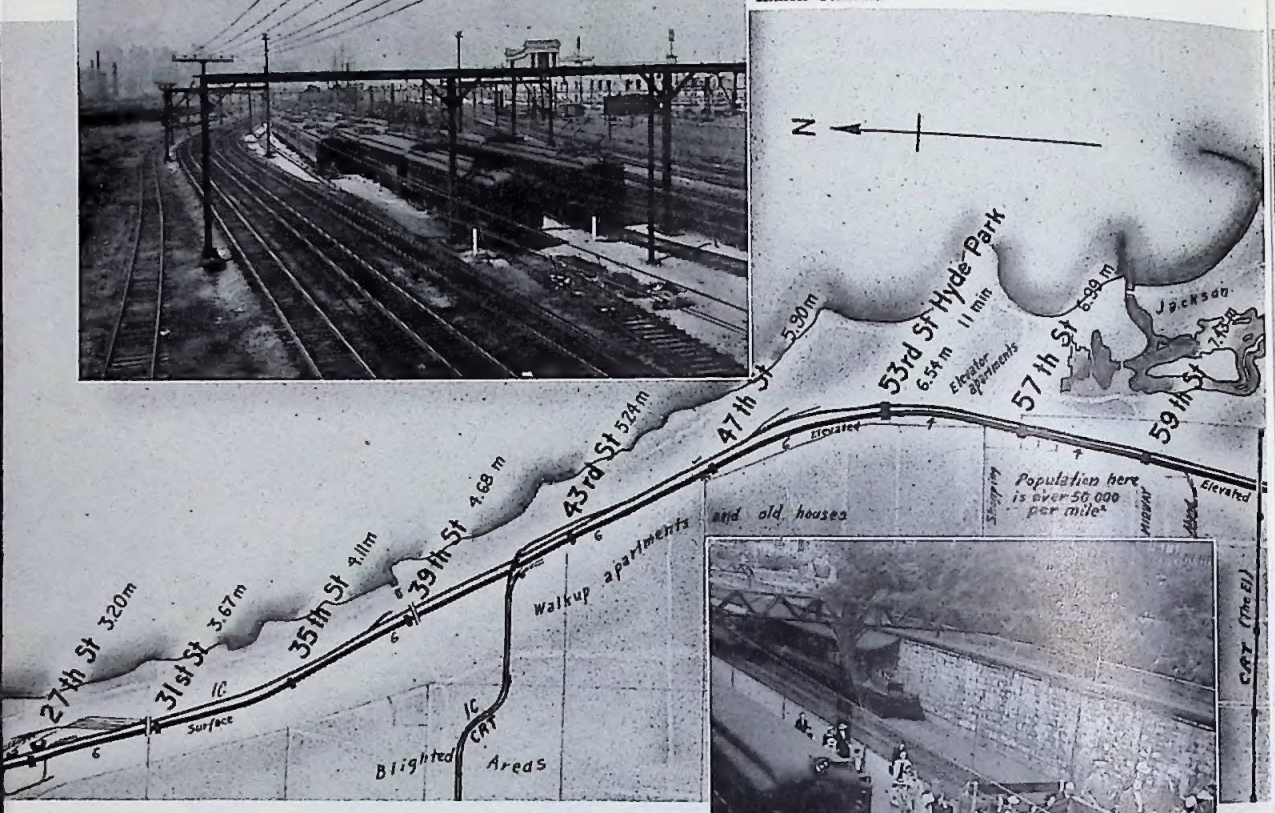


5:15 is symbol of the rush hour everywhere. You've endured the crush in Times Square subway station. You've watched the crowds mill across the high platforms of the Long Island portion of the Pennsylvania Terminal to be swallowed up by the waiting red cars. You've watched the people on the sidewalk, running, walking, all going down Market Street toward the old San Francisco ferry terminal, or now toward the Bridge Terminal. But have you ever stayed at Van Buren Street Station of the Illinois Central Suburban System in Chicago and watched the 5:11 *Kensington Special,* the 5:13 *South Chicago Local,* the 5:17 *Matteson Special* and *ad infinitum,* as they sweep the platforms clean like giant vacuum cleaners? And have you ever watched the towermen in Randolph Street as they unhurriedly move the switches and clear the signals to shuttle 78 train movements through a three-track throat during the hour from 5 to 6?

Out of every 19 passengers who board American trains, one is riding the IC suburban! Here is really the rush hour of rush hours. Here is a railroad, a Class 1 railroad, handling in true railroad style a business that amounts to local rapid-transit in volume. Here is a railroad that in its busiest portion has six mainline tracks for suburban service alone, with everything designed to move the commuter traffic comfortably, quickly, economically.

To the Illinois Central this rush hour is at once a pride and a problem. When a three-track throat handles 78 movements in an hour it is busy, and the responsible official has that capacity load always on his mind. Which brings us to Arthur Umshler, recently retired Chicago Terminal superintendent of the Illinois Central.

Illinois Central.



A. C. Kalmbach.

It seems that once upon a time football specials were being planned to a big game, and that too many had been scheduled for the capacity of the IC's main Chicago passenger station. So G. E. Patterson, vice-president and general manager of the road, called on fat, bald, and jolly Mr. Umshler.

"Arthur," said Mr. Patterson, "what do you think of the idea of sending four of those football specials out of Van Buren Street suburban station?"

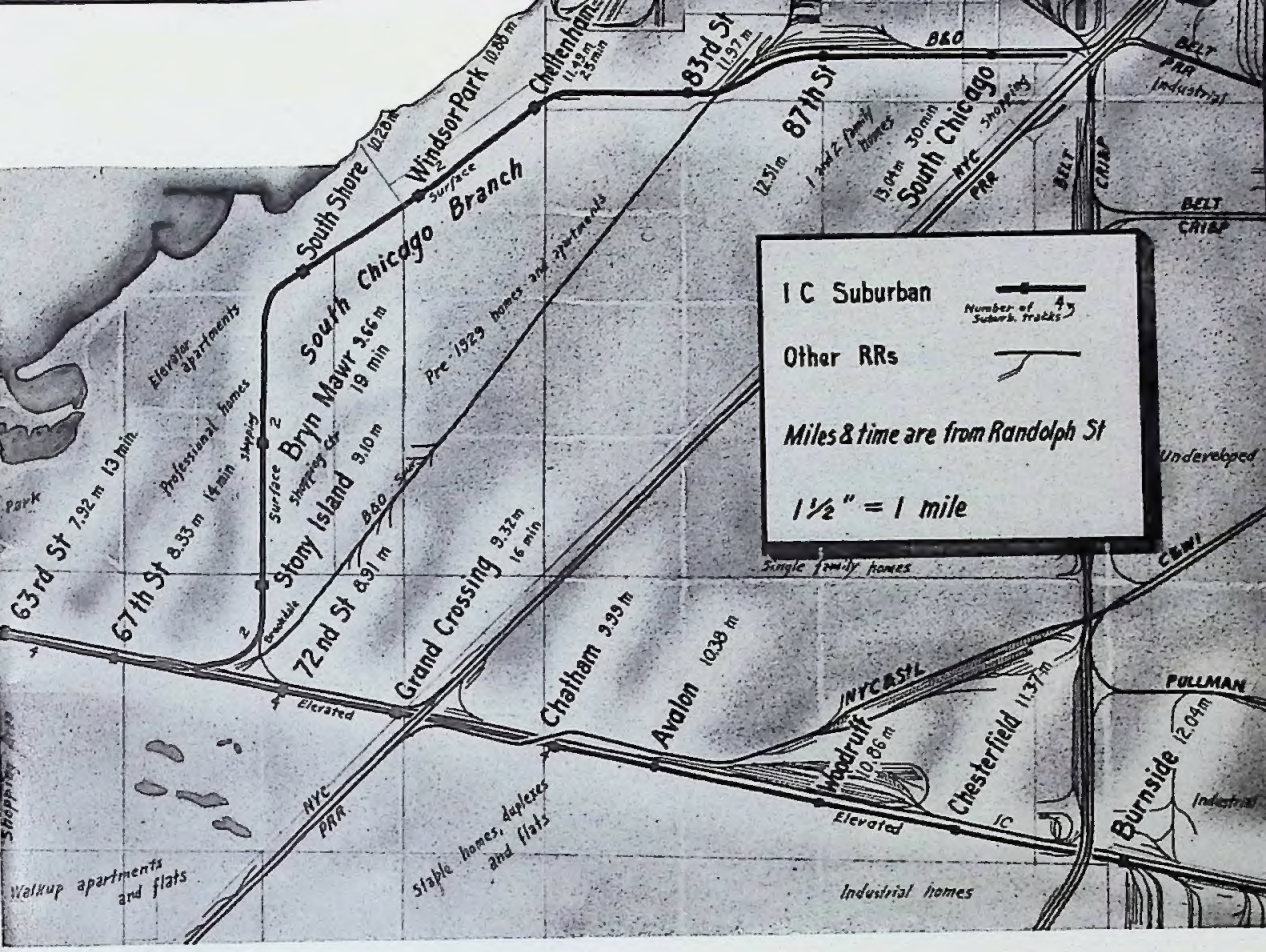
A cloud came over Mr. Umshler's face. "Mr. Patterson," he said, "you know that I've done everything you've ever asked me; you know that I'll do anything you want, no matter what it is—except for this one thing. Please don't ask me to send those trains out of Van Buren Street. If the world has to stop to get those trains out of Central Station okay, then the world will stop."

Mr. Patterson was still concerned. "But why, Arthur, don't you think that they can get out of Van Buren Street Station satisfactorily and without tying up the suburban trains? After all, just four trains won't make much of a difference, even at that time of day."

"Mr. Patterson, I'm asking you again not to make this request of me," said Mr. Umshler. "Why, we are so busy at that time of day that if you send a jack rabbit across the track full speed and right after a train, I'll take his ears off with the next train following."

ALTHOUGH the Illinois Central Chicago suburban service operates on the same right of way as the through freight and passenger trains, the trackage, stations, and other facilities are entirely separate. Along the main line, from two to six tracks are provided for the exclusive use of the suburban trains in addition to the two tracks for steam-operated through-passenger trains and the two for freight. The only physical connections between these distinct sets of tracks are crossovers for emergency only.

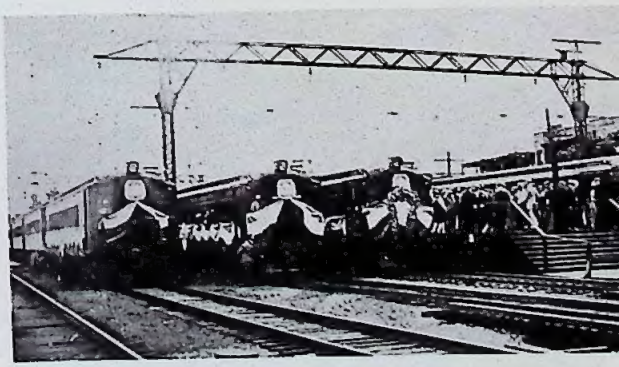
The suburban main line runs from a terminal at Randolph Street and Michigan Boulevard,



The six-track main line splits apart with three tracks running around each side of the suburban car shops (upper left) near 18th Street. At the left, crowds ascend to the street level at Van Buren Station. Notice the high station platform. All IC suburban platforms are at car-floor level.

Above, almost like a roofless subway is this approach to Randolph Street. Compare with the picture looking north on page 10. At right, trains were decked in bunting and flowered horseshoes at the electrification celebration.

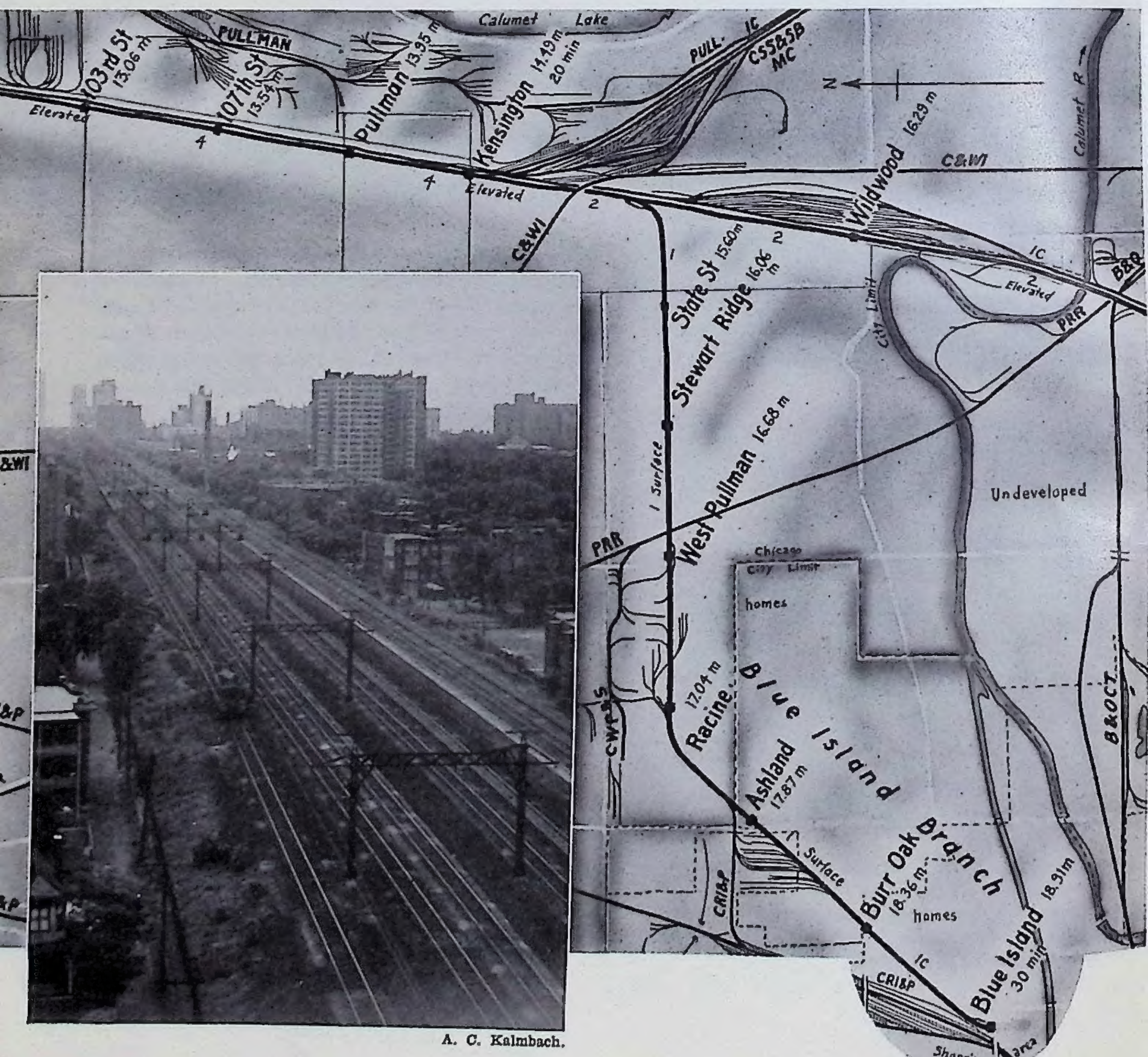
at the northeast corner of Chicago's downtown loop, 28.2 miles south to Matteson, which is on the main line of the railroad. Another 1.1 miles is also electrified to Richton, where cars are stored. The throat of Randolph Street Terminal is only three tracks, and the three-track section continues almost to the Roosevelt Road main passenger station of IC, where the suburban tracks fan out to six. One pair is for specials, the fastest class of trains, another pair for express trains, and another pair for locals. Between 51st Street and Kensington there are four tracks, and only two tracks beyond.



The suburban service also operates over two branches, a 4.7-mile double track southeast through a populous residential district to South Chicago, and a 3.9-mile single track through a semi-industrial district to Blue Island, a considerable town in its own right and also served by Rock Island steam suburban trains. Another branch, the Kensington & Eastern, is leased to the Chicago, South Shore & South Bend as a connection over which that electric railroad reaches the Illinois Central tracks and thence downtown Chicago. A short single track, used only for racetrack specials, runs from the main line at Harvey to the Washington Park racetrack.

Track is heavily built, as it must be for the intensive service it carries, and, along with the steam main lines, is entirely separated from grades of both streets and other railroad crossings for the entire main line. North of 43rd Street the right of way is below street grade; to the south it is above the streets, and in this case the suburban stations are built at street level under the tracks with entrances immediately under the bridges. Both the Blue Island and South Chicago branches run at ground level, and most of the South Chicago line is on private right of way located in the middle of wide streets.

This heavy track, with catenary overhead, is a curious sight in the middle of South Chicago main streets. But even more unexpected in the middle of streets are the stations with not only waiting rooms, but long platforms built up to the height of car floors as are all IC suburban platforms. The entire suburban system, de-



A. C. Kalmbach.

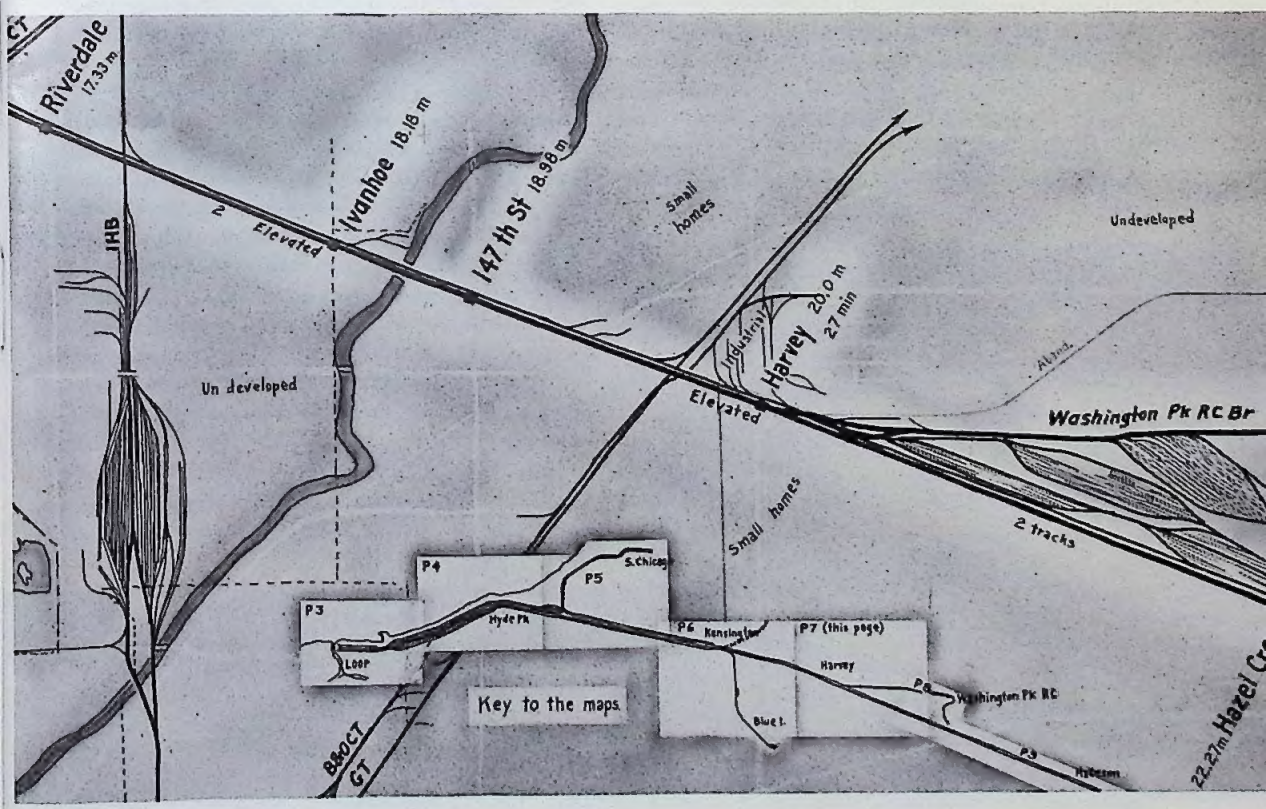
signed from the ground up as a separate entity and not as just a part of the through-passenger service, is built for fast and efficient handling of large crowds. The high platforms are one example. The wide sliding car-doors are another. Even the ticket collecting is rapid-transit style; on the busier portions of the line, tickets are taken at the train gates in the stations.

Except for a short distance near the Illinois Central's main through-passenger terminal at Roosevelt Road, the suburban tracks are on the west side of the right of way. The location is planned so as to allow for possible industrial developments along the west right-of-way line and at the same time to assure the standard clearances in spite of the catenary and signal structures. The curvature of the track and switch work is carefully planned for maximum speed and, in fact, the only two serious speed reductions on the main line are north and south of the downtown through-passenger terminal, where changes in alinement will be made if and when a new station is built.

A. C. Kalmbach.

The pictures show views in both directions from a point above the 63rd Street station. The photo to the left is looking north toward Hyde Park and the area of exclusive elevator apartments and hotels just north of Jackson Park. The single car on the left-hand track is a South Shore Line train to Gary. The southward view, right, shows the station platforms for both steam and electric lines. Notice the three- and four-story walk-up flats.

All tracks carrying traffic in the same direction are grouped. Between 12th and 51st streets the two tracks on the west side of the



right of way and the two tracks on the east side have no station platforms and are for nonstop trains only. The single platforms at each station are located between the center tracks, serving northbound and southbound locals. In the four-track area between 51st Street and 67th Street, two platforms are used at each station and these are placed between the pairs of northbound and southbound tracks, thus serving both local and express trains. Northbound and southbound passengers are completely separated, but passengers can transfer from local to express trains and vice versa. From 71st Street south, a special pair of tracks runs to 115th Street without station platforms and is used by the nonstop specials. Here the station platforms are located in the center of the four-track group to serve both northbound and southbound locals. South of 115th Street there are only two mainline tracks devoted to suburban service and the station platforms are located between the two tracks, where they are also located on the South Chicago Branch. On the single-track Blue Island Branch the platforms are placed in such a position that when the railroad is double-tracked they will be located between the tracks.

With few exceptions, the platforms are constructed to accommodate eight-car trains on the main line, and six-car trains on the South Chicago Branch, the Blue Island Branch and for the local service between 12th Street and 51st Street. Heated waiting-rooms are provided on most of the platforms and in most cases the exits from the platforms are so arranged that each station serves at least two streets, one at each end of the platform.

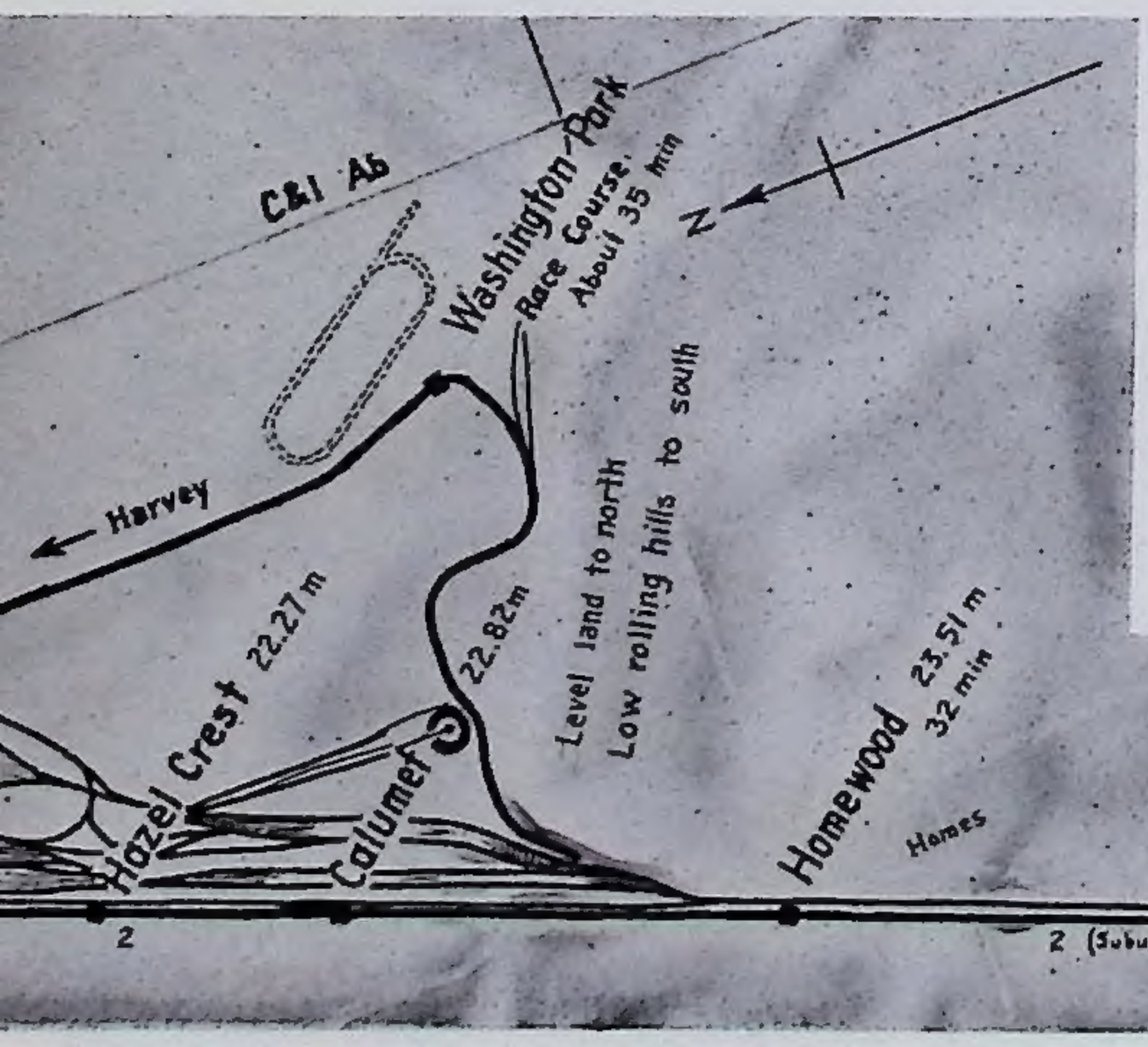
The cars are operated on 1500 volts D. C. This power is purchased from two public-utility power companies which thus are able to tie the load in effectively and economically with the other power requirements of the Chicago area. Seven substations are located particularly to meet the railroad's requirements.

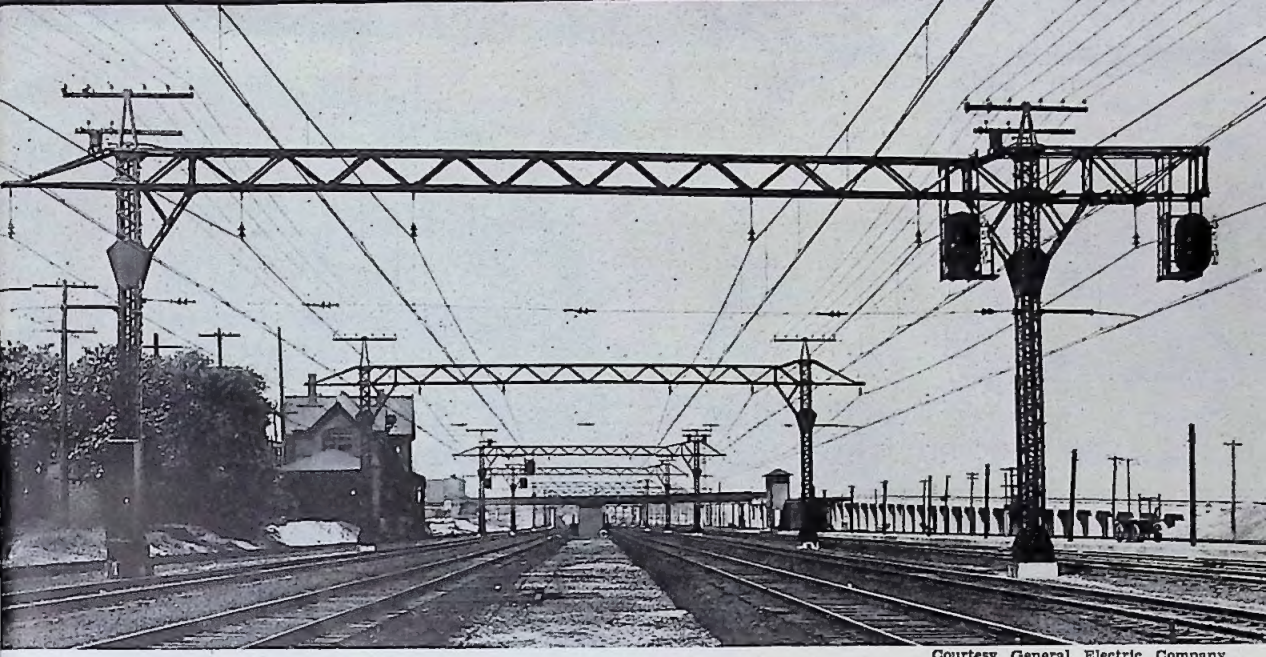
The trolley system over the tracks is a catenary distribution system composed of a messenger wire to support an auxiliary messenger wire and two grooved contact wires. These contact wires are normally held to 22 feet above the top of the rail. The catenary system has sufficient current-carrying capacity that it is unnecessary to provide additional feeders.

The distribution system is planned so that the wiring over each track is separate from that over adjacent tracks and can be sectionalized at the substations and certain other points. Sectionalizing switches are fitted with remote control and can be operated from the desk of the power supervisor at Randolph Street. Normally, the entire trolley system is tied together so as to give the greatest current-carrying capacity, but in case of trouble the power over any track can be cut off while other tracks continue in operation.

Practically all mainline trackage in electrified territory is protected by automatic block signals. These are three-indication color-light types and are usually mounted on the catenary structures. An interesting feature is that in daylight the signals are burned at double the voltage used at night in order to improve the daytime visibility. Seven interlocking plants provide either for crossovers between the various tracks or the junctions with the branches and for crossings of other railroads on the South Chicago Branch and the Blue Island line.

THE passenger cars, even including 45 trailers built during steam service but with the intention of electric service, are of fairly recent





Courtesy General Electric Company.

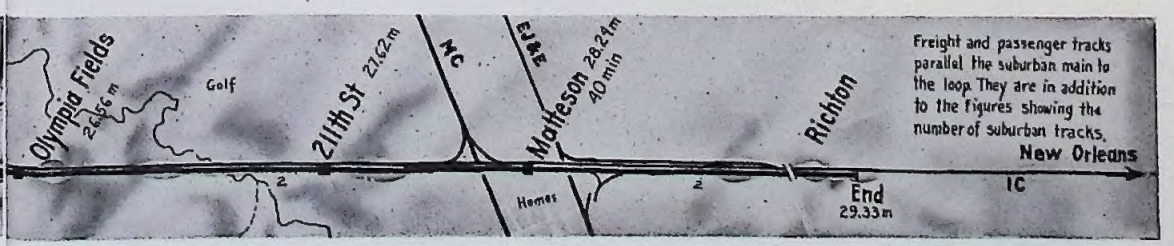
Right of way at 43rd Street.

vintage. Most of them were built just prior to the electrification in 1926, and 20 cars were added in 1928. All are semipermanently coupled in pairs, one motor car and one trailer car, and 140 of these two-car units are used. The two cars are practically identical except for the heavier framing necessary on the motor car. Because of the high platforms, they are not equipped with steps and traps except for emergency exits at one end of the trailer car. Diaphragms are used just as in through-passenger equipment so passage between cars is comfortable. The outside ends of each two-car unit are equipped with destination signs and similar destination signs are also located in side windows near the doors.

The car exteriors are painted Pullman green with gold-leaf lettering, while the interiors are a light, pleasant brown-and-white combination. Some newer exterior color schemes have been tried but have not been permanently adopted.

The trailers carry none of the control or power apparatus with the exception of a single set of master controls. This is in the end of the car away from the semipermanent coupling with the motor unit, and a similar set of master controls is located in the opposite end of the motor unit, so that any two-car unit can be operated as a head-end car in either direction.

The motor car carries the pantographs for current pickup, and all pantographs in the train can be raised and lowered simultaneously from the operating cab of the train. Only one pantograph on a car is used at a time and selector switches on each motor car determine which pantograph will be used. Since there are no loops nor wyes on the line and no cars are ever turned around, the wear on the two pantographs is equalized by using the south pantograph from April 1 to October 1 and the north pantograph for the remainder of the year. Thus there is no possibility of the motorman forgetting to reverse the pantographs at the end of each trip as is normally done in electric operation. Another interesting corollary of the fact that cars are never turned around is that the control contacts which are built into the tight-lock couplers are not arranged symmetrically and some very funny things might happen if a two-car unit were turned around and coupled with another unit which had not been turned around!



George Krambles, 2244 Cleveland Ave., Chicago, Ill.

Hidden from the skyscrapers on Chicago's "Boul Mich" by retaining walls in Grant Park is this busy right of way for the IC suburban, lower level to the left; the South Shore Line, center; and the IC freight terminals, right. One of the world's largest electric signs keeps passengers informed of the correct time while hundreds of trains glide in and out of the Randolph Street station. The three tracks at the left form the lead to the Randolph platforms, while the single track at right center opens into several platform tracks used by the South Shore Line to South Bend. The freight tracks are no longer operated by trolley but rather by self-contained Deisel-electrics. Below, southbound train crossing Little Calumet River.

George Krambles.

Each motor car is equipped with four 250-horsepower motors. This provides for a maximum speed of approximately 60 miles an hour. The control system is arranged for automatic acceleration, although the motorman can use manual acceleration when desired. The multiple-unit control circuits for the motors, as well as the door-control circuits, are operated on 32 volts D. C. furnished by storage batteries carried on each trailer car and charged by a motor-generator set carried on each motor car.

These cars are among the earliest on which extensive use was made of aluminum in order to cut down weight. The roof is aluminum alloy and doors and interior sheathing are aluminum. The cars have a seating capacity of 84 passengers each and yet the motor units weigh only 71 tons each and the trailer cars 44 tons each, a saving of nearly four tons over similar all-steel cars. The weight of a motor car, of course, includes a very considerable amount of electrical control equipment as well as the motors and pantographs. Because of light weight, adequate power and modern acceleration and braking systems, the train starts and stops very smoothly. Car heating is by electric heaters operating directly on the 1500-volt trolley current.

For a suburban service, these cars are unusually clean and comfortable; but it takes more than clean, comfortable cars to attract patronage. In this, the Illinois Central has been unusually successful in spite of two big disadvantages. The first disadvantage is that a large portion of the line has only the lake and park on the east side of it. This cuts the tributary area practically in half. The other big disadvantage is the Chicago Outer Drive, a handsome, efficient express highway which runs along the lake shore and thus enhances automotive competition. In spite of these factors, the electric suburban service has more than held its own. The chief method of attack against the convenience of the private automobile has been an equal, if not greater, convenience offered by frequent service all day long. Where the typical railroad suburban line offers an intensive service in the morning and evening rush hours and then practically closes down during the middle of the day, Illinois Central continues to make good use of its equipment all day long, offering 10-minute minimum daytime headway on the busiest section of the line. Speed, too, plays its part, and this is provided by offering a copious variety of local, express, and special trains. Local trains make all stops between Randolph Street, the downtown suburban terminal, and 53rd Street, and most of the local trains originate and terminate at the latter point. Express trains originate at Randolph Street and run from 12th Street to 53rd Street without stopping and then make local stops from that point to their southern terminal on either the main line, the South Chicago Branch or the Blue Island Branch. Special trains make few stops between Randolph Street and their various southern terminals. An example of the special trains is the 8:09 a. m. *Matteson Special,* which arrives at Randolph Street at 8:49 a. m., an average of 43 miles per hour for the run. It makes six pickup stops at principal stations near the south end of the line and makes two downtown stops in addition to arriving at the terminal. From almost any point on the line, the business man can find similar specials taking him downtown in the morning and home in the evening with the fewest possible stops.

This kind of service not only competes with the private automobile for commutation travel but betters it. Let's look in on the typical case of Phil Johnson, a resident of the Fairhaven Apartments at 74th Street and Phillips Avenue in the heart of the great South Side residential district. Phil has to be at work at 8:30 each morning. He works in the Field Building at LaSalle, Adams and Clark streets, in the heart of Chicago's famous loop. If Phil drives to work he must leave at about a quarter of eight, 20 minutes being about the best running time he can make to downtown over the lakefront drive. He parks his car in a garage, or more likely the parking lot on Monroe, just west of State Street, reasonably convenient to his office. He can then get to his desk a few minutes before 8:30.

If, on the other hand, Phil commutes on the Illinois Central, he can leave his home at the same time, catch the 7:51 special for downtown at the South Shore Station on the IC's South Chicago Branch, read his paper on the way and be at the Van Buren Street Station, handiest to his office, at 8:11. A 10-minute walk will get him to his office at the same time or a little bit sooner than if he had driven. His suburban ticket on the Illinois Central costs $1.40 a week, or but little more than the gasoline alone costs for driving downtown. Parking fees and wear and tear on the automobile are extra.

With such favorable comparisons it's not surprising that the Illinois Central suburban service has suffered less from automotive competition than have suburban services in general. Even in the IC's lowest depression year, 1935, the suburban trains carried half again as many passengers as in 1916 and earned nearly 2½ times as much gross revenue. In 1937 there were more than twice as many passengers as in 1916 and the Chicago suburban patronage accounted for 29.1 per cent of the entire system passenger revenue.

Instead of treating the suburban service as a by-product it is very aggressively pushed with the idea that a good suburban service is a magnet drawing people into a thickly populated zone along its route. Demonstrating the success of this idea are hundreds of apartment buildings, apartment hotels and residential hotels bordering the line, and thousands of new homes near the outlying stations.

Typical of the regard in which the communities hold the Illinois Central suburban service is a statement from a brochure issued by the Woodlawn Trust & Savings Bank. It said:

"Woodlawn owes its existence to the Illinois Central. The suburban service it furnishes is world-famous and put Woodlawn on the map. This transportation made possible the wonderful development which started with the World's Fair boom. Then it was that an ordinary quiet suburb with about 2000 people was transformed into the most rapidly growing part of this great city, and its population advanced in a year or two to 20,000."

THE growth of suburban traffic on the IC has been influenced by several major events: the Chicago fire in 1871, the World's Columbian Exposition in 1893 and the electrification in 1926. The great fire caused numerous residents, whose homes were destroyed, to take advantage of the convenient transportation and rebuild in the suburban communities served by the Illinois Central. The World's Columbian Exposition, located near the Illinois Central right of way south of Hyde Park, created a tremendous demand for traffic in 1893 and caused a more intensive development of the service. The electrification was important not only for the change in form of motive power, but for the fact that it made possible a complete rebuilding of the service with new rolling stock, new stations, new track alinement and new schedules.

An enterprising citizen named Paul Cornell was responsible for the original establishment of the suburban service. He owned a tract of 300 acres bordering on Lake Michigan, about six miles south of Chicago. The Illinois Central wanted 60 acres of this tract for its original right of way and Cornell sold it to the railroad on the condition that the IC would establish a station on his property and operate regular daily trains between there and Chicago. Should the patronage fail to meet expenses, Cornell agreed to make up the deficit out of his own pocket. In the Spring of 1856 Cornell laid out a subdivision on his property which he named Hyde Park, and the Illinois Central built a station at what is now 53rd Street.

The first train ran on July 21, 1856. It was known as the *Hyde Park Special* and on its first trip had nary a passenger up or down. At the time the south limits of Chicago were at about 39th Street, and between there and Hyde Park were stretches of prairie, woodland and marshes interspersed with muddy roads and an occasional farmhouse. For many miles south of Hyde Park there was not a town of sufficient importance to be shown on the map of the state.

The establishment of train service between Chicago and Hyde Park was the stimulus for the first real-estate movement to the South Side. Its promoters inserted advertisements in the Chicago papers calling attention to the advantages and attractions of Hyde Park as a residential community for "business men and mechanics." One of these advertisements said:

"Hyde Park is beautifully situated on high ground interspersed with groves on the lake shore six miles south of Chicago. The drives in the surrounding country are numerous and varied by picturesque groves. A special train leaves the Illinois Central depot at intervals during the day for this point to accommodate residents. The trip is a delightful one all along

The IC brought back memories when this old suburban train was exhibited at the 1933 World's Fair.

Courtesy Illinois Central.

George Krambles.

Closeup of one of the two-car units. Notice steps for emergency use.

the lake shore. As the population increases, this will no doubt be a flag stop for every train coming on this road to Chicago." All but two through trains do indeed stop at Hyde Park now.

By the close of 1860 a little hamlet of perhaps 30 voters had grown up about the station at Hyde Park. During the years between 1856 and 1871 other stations were gradually established between Hyde Park and Chicago, and in 1862 the service was extended to what is now 63rd Street. The population of the South Side of Chicago had grown gradually from 30,000 to 88,000 people. The suburban schedule had been increased to five local trains each way, daily except Sunday.

Then came the fire, and in the next two years suburban service between Randolph Street and 71st Street was increased to 20 trains on week days and service was extended through Kensington to Dalton Junction on the Calumet River with one train terminating at Dalton Junction and one train terminating at Kensington.

That South Side community, which today owes so much to the Illinois Central service, objected at first. The merchants protested that the residents of the town would find it too convenient to do their shopping in Chicago!

For all of the 16 years up to 1872, the trains had been running across the front doorsteps of downtown Chicago on a trestle, consisting of wooden piles driven into the bed of the lake, from Randolph Street to Park Row, now 11th Place. In 1872 this trestle was filled with debris from the fire-swept areas of the city and late in that same year the Van Buren Street station was established. This and Randolph Street are now the downtown stations, Van Buren Street at the south end of the loop and Randolph Street at the north end. All trains also stop at the suburban station just east of the main Illinois Central passenger station, at 12th Street (Roosevelt Road), some distance south of the loop but in an area which includes many fine office buildings as well as the Stevens Hotel.

Pullman, Ill., one of the most unusual communities served by the IC, was established in 1880 when George Pullman purchased 4000 acres of land west of Lake Calumet along the Illinois Central and there began the construction of his "Pullman Palace Car" plant, as well as working-men's homes, business buildings, schools, churches, a hotel, a bank, a library and a theater. The Illinois Central contributed to the success of the enterprise by erecting a fine station and increasing its suburban service between Chicago and Pullman to 36 trains daily, some of them behind a Rogers 2-4-4T, newly built for the service. Pullman soon attracted world-wide attention as a model manufacturing town. Population increased from one family in 1830 to 12,000 persons in 1893. The main car-shops are still located there.

Contrast the IC service of the Columbia Exposition days, above, with the clean, gliding service of today. Notice the "English-type" cars and the old octagonal station at Van Buren Street. The locomotives above are lined up at Randolph Street Station; the electric train is approaching the six-track section near 53rd.

In the meantime, the town of South Chicago was experiencing rapid growth. The Inland Steel Company established a large plant there and other enterprises were projected. In 1882 the Illinois Central began the construction of a branch to that town from a junction with the main line at what is now 69th Street. The branch, 4.7 miles in length, was completed and opened for operation in 1883, and the first suburban service to and from South Chicago was established September 2 of that year.

By 1890 the suburban service consisted of 114 weekday trains and 62 Sunday trains, all of which were locals. The estimated number of passengers carried annually increased from 250,000 in 1871 to four million in 1890. It was in the next year that the South Side experienced the beginning of great activities and preparation for the World's Columbian Exposition. The suburban service was one of the leading factors in determining upon Jackson Park as the site of the exposition. Hundreds of apartment houses, homes and business buildings were constructed in addition to six large hotels. The University of Chicago was established at its present location just across the IC tracks from the fair ground. The Midway Plaisance and Jackson Park were transformed from unsightly swampland and marshes into a fairyland of beauty and color and architectural splendor such as the New World had never before seen. In order to afford uninterrupted access to the exposition

grounds, the Illinois Central elevated its tracks from 53rd to 67th Street and extensive improvements were made to suburban facilities. The present through-passenger station was erected at Roosevelt Road and the railroad constructed two additional tracks between Randolph Street and the World's Fair Midway. Forty-one locomotives and 300 passenger coaches, including some with English-style side doors, were added to the service. During the exposition the Illinois Central provided the principal transportation service between downtown Chicago and the fair grounds. Before this time, all suburban service had been local, stopping at all stations, but World's Fair express trains were run every 15 minutes without a stop between Randolph and Van Buren streets and 53rd, 57th, 60th, and 63rd streets. Schedules during the fair provided 294 weekday trains and 198 Sunday trains, and during the six months of the exposition nearly nine million passengers were handled to and from the fair grounds.

Meanwhile, things were going on which assured full use of the extensively developed suburban service after the fair was over. The Blue Island Branch was built and the city of Harvey grew out of nothing at all, some 5½ miles south of Kensington.

With such unusually fine (for its day) suburban service as a stimulant, the area south of Chicago continued to grow and the railroad continued to improve the service, a process which still further added impetus to the growth. The express trains to 53rd Street were continued after the fair was over and on May 14, 1905, an additional service of "special" trains was introduced. A "businessmen's special" left Flossmoor for the city at 7:48 a. m. and another left Randolph Street for Flossmoor at 5:10 p.m. A "golf special" left Randolph Street for Flossmoor at 12:23 p. m. and another left Flossmoor for the city at 5:38 p. m. These were the forerunners of the present nonstop "special" service.

On this framework of train service, constant improvements were added, culminating in today's 10-track right of way with through trains, freight trains and suburban trains completely segregated and the suburban trains running on their own local, express and special tracks. This is a layout which can laugh at traffic requirements such as those of the 1893 World's Fair. In fact, on October 30, 1933, the electrified service, due to the 1933 World's Fair and the American Legion Convention, handled a peak load of 212,315 passengers with no trouble whatsoever.

For years to come the low-ceilinged, utilitarian station under East Randolph Street will be a familiar sight to thousands of commuters. A few will sit and wait in the benches, arranged like church pews, all facing the train gates with their electric destination signs. But most of the crowd will stream through the Michigan Boulevard doors to the ticket collectors, for the trains are always waiting.

Donald W. Furler, 94 W. Main St., Glen Rock, N. J.

Delaware & Hudson 4-6-6-4 No. 1506, southbound on the Erie's Jefferson Division near Starrucca, Pa.

One for the Books

★ New York *American* hired a special train to deliver 500 newspapers to Baltimore in 1912.

By J. P. Connolly.

On the afternoon of June 24, 1912, the late Bill Henry, former circulation manager of the New York *Journal-American,* who was then circulation manager of the New York *American,* telephoned me and suggested that I come right over to his office on a matter of vital importance to the *American.*

I was at that time supervisor of mail traffic on the lines of the Reading and the Central Railroad of New Jersey, and also handled the transportation of newspaper publications on the CNJ.

Bill, a very fine fellow and excellent businessman in his field, was in a state of excitement. The Democratic National Convention was in session at Baltimore, Md., and the nomination of the party candidate was scheduled for that night. The rivalry for the nomination between Woodrow Wilson and Champ Clark was great indeed, and the *American* wanted to score a scoop on the other New York newspapers by being the first on the streets back in Baltimore with the name of the Democratic nominee for the presidency.

I was delegated to arrange for a special train to make a flying run from New York to Baltimore just as soon as the results of the convention were published.

Everything was in readiness at the offices of the *American* when the announcement of Wilson's nomination was flashed over the wires, and the presses fairly flew with the news. When the first 500 copies rolled off the press, they were tied up, hustled and tossed into a wagon, and the driver instructed to wing the horses and fly. I had in the meantime made the necessary arrangements for a "special" with the Jersey Central, Reading Company and the Baltimore & Ohio Railroad, and Bill and I accompanied the shipment.

A ferryboat lay in readiness at the foot of Liberty Street with instructions to depart the moment the wagon was aboard. It was 3:11 a. m. when the ferry eased out of the slip, and away we went. Everything was running along smoothly enough when we suddenly lost our poise. Due to the swift tide, a float of freight cars crossed our bow in the very middle of the North River, and we were consequently delayed about four minutes in arrival at the Central Terminal on the Jersey side of the river.

The "special," consisting of one baggage car, a day-coach and engine, was stationed on Track 14—the nearest to the ferry house—steam up and crew alert. The train was held until 3:23 a. m., due to the delay on the river, but it was not long before we were speeding at 70 miles an hour and continued at that rate to our destination, except for the necessary slowdowns at Bound Brook Junction, Neshaminy Falls, and at intersections.

At 24th and Chestnut streets, Philadelphia—the Baltimore & Ohio station—we halted to change crews and load on additional grease, oil, waste, and other essentials.

This sensational and epical run was not without incident. Before continuing on our way from Philadelphia, we received sharp criticism from a B&O trainmaster who had been assigned to ride the train from that point to Baltimore. This man appeared to be of pessimistic nature and decided that such a run was entirely too dangerous and should not be undertaken. After a moment's argument, however, and regardless of any opinions in the matter, we continued on our way and arrived in Baltimore at 6:20 a. m., having attained an average speed of 65½ miles an hour.

The other New York newspapers did not appear on the streets of Baltimore until many hours later, and the *American* scored its victory —an expensive one, to be sure.

The run of that "special" was phenomenal for its day, and it still surpasses the best schedule of the B&O between Jersey City and Baltimore. The *Royal Blue* takes 3 hours 40 minutes to do what the "special" did in approximately three hours.

The Man in the Tower

By Edward Hungerford.

IT is curious how a really great man lives on—long after the breath of life has departed from his earthly body. Such a man was the late Daniel Willard, for more than 30 years president and the great moving spirit of Baltimore & Ohio. It was a year ago last July that Daniel Willard departed from the flesh. More than a year before that he had resigned from the presidency of the road. His much beloved son had just died and with the passing of Daniel Willard Jr.—a man of great ability and promise—the senior Willard felt that life itself had slipped away from him. He returned quietly to the semi-obscurity of his house in Roland Park, Baltimore, and from that time on few Baltimore folk saw him.

At the time of his passing, the Man in the Tower was privileged to write a brief obituary of his close friend, of whom he had been biographer. In it, he said:

"It will be many years before a locomotive operates upon this railroad (Baltimore & Ohio) without the unseen touch of his hand upon its throttle. In flesh he is gone; his spirit remains. Men like Daniel Willard do not die, cannot die. For many a year Uncle Dan will continue to ride the line. He will go through the valley of the Potomac and up Seventeen-Mile Grade, across the high Alleghenies to the far corners of the system. By day and by night he will travel with us—ceaselessly. As long as Baltimore & Ohio lives, the thunder and call of its locomotives will be the voice of its greatest traveler —on his way throughout the years. . . ."

"Uncle Dan" Willard.

Courtesy Baltimore & Ohio.

ALL of this was brought to mind in a recent talk with the head of one of the big railroad operating brotherhoods. We were speaking of the Daniel Willard who would not, could not, die. The brotherhood chief said:

"I will tell you a story about Dan Willard that you may not ever have heard before. It gives as clear an insight into the character of the man as ever I have known.

"You will remember that in 1887, the Burlington had a particularly difficult strike of its engineers on its hands. P. M. Arthur was grand chief of the brotherhood in those days, and he had sent out word that no engineer on any road was to touch a Burlington car—in any way, shape or manner. If he was offered a Burlington car, rather than take it, he was to run his engine into the roundhouse and quit work.

"At that time, that extremely competent and human railroader, Frederick D. Underwood, was general manager of the still-new Soo Line, up in Minnesota. Dan Willard was the road's crack engineer. Underwood was watching Willard closely; had about decided to take him off the line and make a trainmaster of him. When the strike was over—it lasted about a week and tied things up pretty badly at one time—Underwood called Willard to him.

"'I've decided to take you off your engine and make you trainmaster of this road. It's time you were sticking around home more, with your wife and family. There will be $20 a month more in it for you—and an opportunity for advancement.' The general manager lowered his voice: 'I've been watching you pretty closely this last week, Dan. I knew that we had an ace card in you—that you would not make a damn fool of yourself and refuse to switch or run a Burlington car.'

"Dan Willard hesitated. Then he cleared his throat.

"'Boss,' said he, 'I didn't have the opportunity. There wasn't a Burlington car that came rolling my way the whole week.'

"Underwood smiled at him.

"'But you wouldn't have made a fool of yourself in any event, Dan,' he repeated. Dan Willard looked at his chief in the quizzical way that was so typical of him.

"'Boss,' he said, quietly, 'I always have been a loyal member of my brotherhood. If I had been offered a Burlington car that week, I would have quit, rather than have handled it.'

"Underwood reached over and shook him by the hand.

"'Dan Willard,' said he, 'you're the honestest man on this whole damn railroad. I want you more than ever as trainmaster — and you're going to get $10 a month more than I promised you.'"

THE days of the '70's, when Daniel Willard first went riding the old line up in New England in an engine cab, were hard days indeed for railroaders. The automatic coupler had not yet been invented and the deadly old link-and-pin still prevailed. The brakemen were given stout sticks to help them make the couplings, but it was considered a bit sissy to use the sticks—and so a good many of them took a chance, with the result that there was, pretty much of the time, an abnormal decimation of fingers and hands and arms. . . . One Matt McD—— presently joined the blessés. They took his right hand off, at the wrist. He was a strong and husky young Irishman and in a few weeks he was in the superintendent's office. The local blacksmith had fashioned a hook to replace his hand—a cute trick it was. The superintendent was sympathetic with him—very sympathetic.

"You have put us through a lot of worry, Matt," said he, gently. "I have the bill for your amputation here from the doctor. It's high. It's $35. We're going to be generous with you. Because we like you, Matt, we are going to

Daniel Willard at the throttle: Soo Line, 1885.

Courtesy Baltimore & Ohio.

pay half of that bill ourselves. And we'll try and find you a job somewhere in the depot here. But of course we won't be able to pay you as much as we did as brakeman."

Sometimes one wonders how trades-unionism got started upon the railroads of the United States. Here is where just one seed was sown. And a few years later the so-called "featherbedding" came in a good deal of the same sort of fashion. Unquestionably it has been one of the most outrageous things that ever was foisted upon the American railroad. The union chiefs are almost as quick to say that as are the railroad executives.

The credo of "featherbedding," its foundation, is a series of long-drawn-out contracts between the roads and their various unions that would take a Philadelphia lawyer to fathom. A man cannot do this and he cannot do that. There isn't so much said about what he can do—just what he cannot do without being fined and sent into the doghouse of his union. The net result of the whole thing has been to cost the railroads a good many million dollars. Some one of these fine days, the whole business is going to be thrown into the scrap heap. The railroads and their unions are coming to a far simpler and better basis of relationship. Daniel Willard, who was about the best friend the top-of-the-rail man ever had, used to predict that.

And yet "featherbedding" has been, to no small extent, a thing of the railroads' own making.

"How's that?" you ask. "Of their own making?"

If you go far enough back into our railroad history you will find that many of these absurd "featherbedding" rules originated in the long-agos with some superintendent who got into a jam with some of his men and made a ruling as arbitrary as it was unfair—and an egg was hatched.

There was another way in which "featherbedding" came into being: A minor railroad officer might be waited on by a group of the men under him, with a stiff demand for higher pay that put him on the spot. The wage scales upon his road probably had been worked out pretty carefully at headquarters and they were definite and unchangeable. The railroad officer knew that and it made him squirm a bit. If he upset those long-established standards, even the least little bit, at his corner of the road, it might upset things all over the system. He looked about him for other ways out.

Perhaps he might find some concessions that he could make to his men—concessions that would give them a little more time off, better working conditions, or perhaps a chance to get a little spare change somehow, somewhere, from other parts of the railroad payroll. If he could trade with these concessions successfully, he would not change the established rates of pay for any given job upon the road. It was a temptation.

In the long run, the men generally won. But the railroad officer still was able to report to his chief that the road's basic rate had not been changed within his territory and he got the looked-for praise from his boss. "Of course, boss, we did have to make a few concessions," he might say. The boss might not even hear that. All he knew was that the road's precious pay bases had not been upset—and he could so report to his bosses.

FOR some months past the Man in the Tower has been engaged in trying to figure out the American railroad of, say, 10 years hence. It always is pleasant to wander into the fields of fantasy, even though prophesy may be difficult.

One of the chief problems that has confronted him in the making of the railroad future has been that of its labor—of its human relationships, in every form and manner. He has talked with many men, in almost every phase of railroad endeavor; has studied deeply into the subject from all its many angles. He now is firmly convinced that the only far-visioned way out is in tearing up the old contracts, working out an entirely new system of railroad pay, and adopting some sort of a bonus system. This last is by far the most important of all.

The bonus system has worked most satisfactorily in other phases of American industry. Granted that, in many ways, it would be extremely difficult of application to the railroad industry, with care and patience and study the thing could be and should be done. Until it is done there never will be permanent peace between railroad labor and railroad capital — the great partners in America's chief agent of transport. As in other businesses, the worker's interest and enthusiasm should receive some sort of special reward. This may be, in some places, a hard pill to swallow, but, for the good of the future and the good of the railroad, it will have to be swallowed. The Towerman knows one man that would like to have swallowed it, and it would not have been a pill to him. That man was, still is, Daniel Willard, the dean of all railroaders for at least the past 60 years.

Edward Hungerford

Swiss Federal Railroad Agency.

Swiss Federal Railroad Agency.

The Railroads of Switzerland

★ Switzerland has twice as many railroads per square mile as Pennsylvania; its scenic railroads help pay the national debts.

By Fred Eidenbenz.

FROM the historic clock tower in the city of Berne, capital of Switzerland, 12 sonorous strokes of the big bell announced the midnight hour and the start of the new year 1902. In the main railway station, not far away, a large crowd of Bernese citizens milled around in festive mood—an unusual occurence at this time of night. A train was due to arrive from Basel and Zürich. Right on time the express rolled into the station, headed by a steam locomotive gaily decorated in the national colors. The Bernese were noisily greeting the arrival of the first train of the newly organized Swiss Federal Railways.

But the story of the railroads of Switzerland did not begin that New Year's night in 1902; it really started on August 7, 1847, when the first train entirely on Swiss soil left Zürich to make a 15½-mile run to the pretty resort of Baden in the valley of the Limmat River. For many years the countries around Switzerland already had substantial railroad lines in operation; the alpine regions, however, were then considered an impossible territory for any railroad development.

It was hard for people of that day to imagine what the railroads actually did accomplish in the next half century or so. Not only were the lowlands which extend in a long diagonal across the country filled with a network of efficient lines, but the Juras to the northwest and the Alps to the south and east were pierced and branch lines followed every important mountain stream. But the development in the middle lands did come first.

In order not to lose the valuable through-traffic which Switzerland had fostered and benefitted by since Roman times, the Swiss government stimulated the construction of railways by private companies, and in due time there were principal companies linking the main industrial cities of the middle lands, and connecting at many points with the railroads of France, Germany and Austria. In the '50's and '60's a number of bold projects to conquer the great wall of Alps were also talked of, but these were little more than dreams. While engineers were sure a railroad could be built over the Alps, a country so small as Switzerland could hardly finance its construction. Therefore, in 1871, Germany, Switzerland and Italy signed an international treaty, guaranteeing to raise the necessary funds and to supply the materials for the construction of the great St. Gotthard Railroad, the

Since the outbreak of the war in Europe the international train through-services have been discontinued. Likewise, train schedules and routings have been changed. In Switzerland some nonessential train and alpine postal services have been discontinued for the duration. However, the experiences of the postwar years after the last war have shown that the international train services on the Continent, as well as general traffic and travel, will again resume shortly after the frontiers have been fully opened for passage and conditions approaching normalcy have been re-established.

A railroad can go anywhere.

But the people back in the last century were quite skeptical about railroads in the Swiss alpine regions until engineers built the St. Gotthard line (top). This famous scene shows a left-handed pair of locomotives emerging from the upper of two helical tunnels at Biornico. The viaduct is called Pianotondo, and most names in this part of Switzerland are Italian. Below, the Langweis Bridge, on the railroad between Chur and Arosa in eastern Switzerland, springs to a height of 327 feet above the Plessur River. The line is narrow-gauge, and like most Swiss lines it is electrified.

* Fred Eidenbenz, native of Zürich, Switzerland; travel agent in New York (now in freight shipping department of steamship line). Other activities: Edits monthly publication and runs small library. Has traveled extensively in Europe and the U. S. A. Hobbies: Railroad traffic, trains, books, and travel.

first north-to-south transcontinental line through the Alps.

The St. Gotthard line is still one of the engineering wonders of the railroad world, but what is even more important, it has become the principal north-and-south main line of Europe, since it connects France, England, the low countries, and Germany with the Mediterranean. This trans-alpine route is a well equipped, double-track, standard-gauge line which crosses Switzerland from Basel (top left on map, page 24) via Zürich or Lucerne, to Bellinzona, Chiasso, and Milan, Italy.

In all there are 83 tunnels on this 169-mile route. The central alpine divide is pierced by a 9¼-mile tunnel 3786 feet above sea level. The approach tracks are 2.7 per cent grades, but since the valleys of the Reuss and Ticino were too steep the engineers resorted to the use of helical tunnels to gain elevation. Since the completion of the St. Gotthard in 1882, similar tunnels have made other mountain crossings possible in all parts of the world.

Two more recent trans-alpine routes have been built: the Simplon and the Lötschburg. These north-south lines are crossed by two lateral main lines passing through the whole length of the middle land from Lake Constance to Lake Geneva, thus forming the mainline grid of the country.

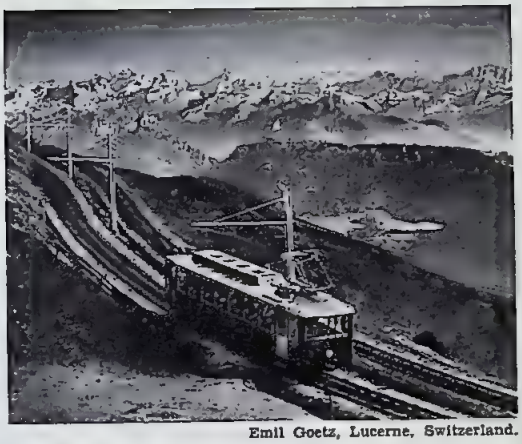
Before going on with the development of Swiss railroading, let me tell you a little about the country itself.

Official Information Bureau of Switzerland.

Switzerland is smaller than Vermont and New Hampshire combined, and a little farther north. It has no mineral resources of any importance; there is only a small amount of level land and there are no seaports. Yet, with all this against it, it is as great a nation of manufacturing importance as any in Europe. This is particularly notable when you realize that the Swiss must import the raw materials (they have little of their own), they must import their coal to keep the factories going, they import most of their food, and they must export their finished manufactured goods to find a market. Water power, which today is almost universally used to generate electricity to run the railroads, has only recently been put to industrial use in the aluminum industry. The first important railroad electrification was the St. Gotthard just 21 years ago.

The reason for the industrial success of the Swiss is due to the individual enterprise and ability of the four million inhabitants, to the stability of the country's external and internal political position, and to the abundance and cheapness of its capital resources.

Switzerland's principal customers are England and Germany, while the chief items of export are watches, woven silk, machinery, chemicals, cotton products, alminum, canned milk, shoes, artificial silk, and chocolate. But while manufactures are the industrial mainstay of Switzerland, the fourth largest source of income is the travel business.



Emil Goetz, Lucerne, Switzerland.

There are few travelers to Europe who do not at least pass through Switzerland, and those who know what the country has to offer spend weeks in the ancient cities and at the alpine resorts. The Swiss know how to make the traveler comfortable, too. Hotels are clean and not too expensive; fine folders and maps make it easy to find one's way; wide windows in the railway cars take in all the views.

Many of the railroads were built primarily for the tourist trade, and there are in addition more than a hundred cable or rack railroads that take sightseers up to high vantage points at convenient distances for views of some of

A. Klopfenstein, Adelboden, Switzerland.

Steep mountain-climbing railroads are found in all parts of the Alps.

The claim for the steepest railroad in the world is made by the cable line from the Ambri-Piotta power house to the path that leads to Ritom Reservoir. The 87.8 per cent grade is built beside the supply pipes which conduct power to operate the St. Gotthard Railway. At the left are views of the line, including a closeup of the upper terminus. Better known are the Rigi Mountain Railways (right, above), the first in Switzerland. One climbs from Vitznau on Lake Lucerne and has recently been electrified. The other, built by the same man only a few years later, starts at Arth-Goldau on the St. Gotthard Railway. Near the summit the lines are side by side. Right, below, the scenery from the Gornergrat Railway is hard to surpass anywhere. It commences at Zermatt and climbs to an elevation of 10,289 feet in an hour and a half. The crowning landmark is the Matterhorn, one of the toughest peaks for the mountain climber. Notice the third rail on this and other mountain lines. This rail, called the rack, has teeth which engage with gears under the locomotives to insure traction.

Interlaken to the Jungfrau
4 miles = 1 inch
Interlaken
Lauterbrunnen
Wengen
Grindelwald
Kleine Scheidegg
Jungfrau
Eiger
Monch
Murren
Basel
Olten
Aarau
Soleure
Biel
Berne
Neuchâtel
Lake Neuchâtel
Fribourg
Thun
Spiez
Lausanne
Vevey
Montreux
Rochers de Naye
Geneva
Lake Geneva or Lac Leman
Martigny
Simplon Route
Brig
Zermatt
Chamonix
Mt Blanc
Grand St Bernard
FRANCE
GERMANY
ITALY
Electric
Steam
Standard G.
Narrow G.
Also Tramways
Cable or rack
16 Miles = 1 Inch

Linn H. Westcott.

the famous mountain ranges, or perhaps to the summits of the glacier-covered peaks themselves.

Most popular with the foreign and Swiss tourists alike are the special reduced-rate tickets for families, schools, parties, and excursions. The so-called season and vacation tickets are the favorites. They are the delight of the railroad enthusiast and persistent traveler. "Season tickets" are like passes, issued throughout the year at very reduced prices for a specified period of one, two or four weeks, three to twelve months, allowing the holder to travel at any time during the stated period on any train over the entire network of the Swiss Federal Railways. In addition, these wonderful bargain tickets give a tourist the right to a discount of from 10 to 50 per cent on 63 of the privately

Nickles, courtesy Swiss Federal Railways.

Mighty Jungfrau looks on.

In the deep valley to the right is Lauterbrunnen (2615 feet above sea level), one of the Swiss mountain villages that has gained world fame for its scenery and sports. The train of the Wengern Alp Railway, in the foreground, has come up from Lauterbrunnen, 1575 feet below, in less than 30 minutes of a winding, tunnel-piercing climb. In another hour it will have geared its way to Kleine Scheidegg at 6770-feet elevation. We are on an *alp*, a sloping pasture high on the side of the glacier-carved valley. Chalets, like those in the distance, are used by the cattlemen in the Summer seasons to house themselves, and as cheese factories. Beyond Kleine Scheidegg station on this railway, one can continue via the Jungfrau Railway to within a mile of the top of Jungfrau, the large, lacy rock-and-snow mass at the upper left. This line is almost all in tunnel, right through the mountains. Another mountain railway starts from Lauterbrunnen, climbs far above the Stubbach Falls, seen at the right, and then winds its way to Murren on another alp in the far distance.

owned mountain railroads, street cars, lake-steamer lines, and the postal bus services over the alpine passes. Just imagine yourself holding such a pass and being able to hop on any train in sight and travel wherever you wished over the most interesting, varied and scenic railroad system in the world! It is the unforgettable experience of a lifetime.

A little later I'll tell you more about the mountain railroads, but let's go back to the development of Swiss railroading after the St. Gotthard line was completed.

To students of railroad history it may appear as an anomaly that a country like Switzerland, the most democratic republic in the world, should have government ownership of most of its railroads. But when the railroads were first introduced in Switzerland, the majority of her prominent statesmen favored government ownership. This feeling may have been due to the influence of Robert Stevenson, who in 1850 made a study of the railroad possibilities of Switzerland and recommended, among other things, the government construction of 400 miles of railroad; it was also due to a fear of foreign control of Swiss communications.

When, at first, a decision was taken in favor of private ownership and operation, it was considered a temporary measure only, dictated partly by political expediency, partly by the desire to give this new method of transportation a tryout until assured of its financial and technical success. Chiefly, however, in all their long history, the Swiss people have never entertained the idea of making permanent the private-ownership arrangements of their im-

portant lines of communication. The state railroads, the telegraph, telephone, postal services and other public services are being maintained and efficiently operated for the full use and benefit of the people.

Of course, the change from private ownership of the railroads to operation by the government did not take place suddenly, nor without a struggle. But the people had voted in favor of the proposition and the people were willing to pay the rather high price for the repurchase of these private railroads. Thus, on New Year's, 1902, the Swiss Railways came into being, and since then, through war and peace, this well managed organization, the biggest commercial enterprise in Switzerland, has efficiently served the people and their industries, as well as European commerce and transcontinental traffic.

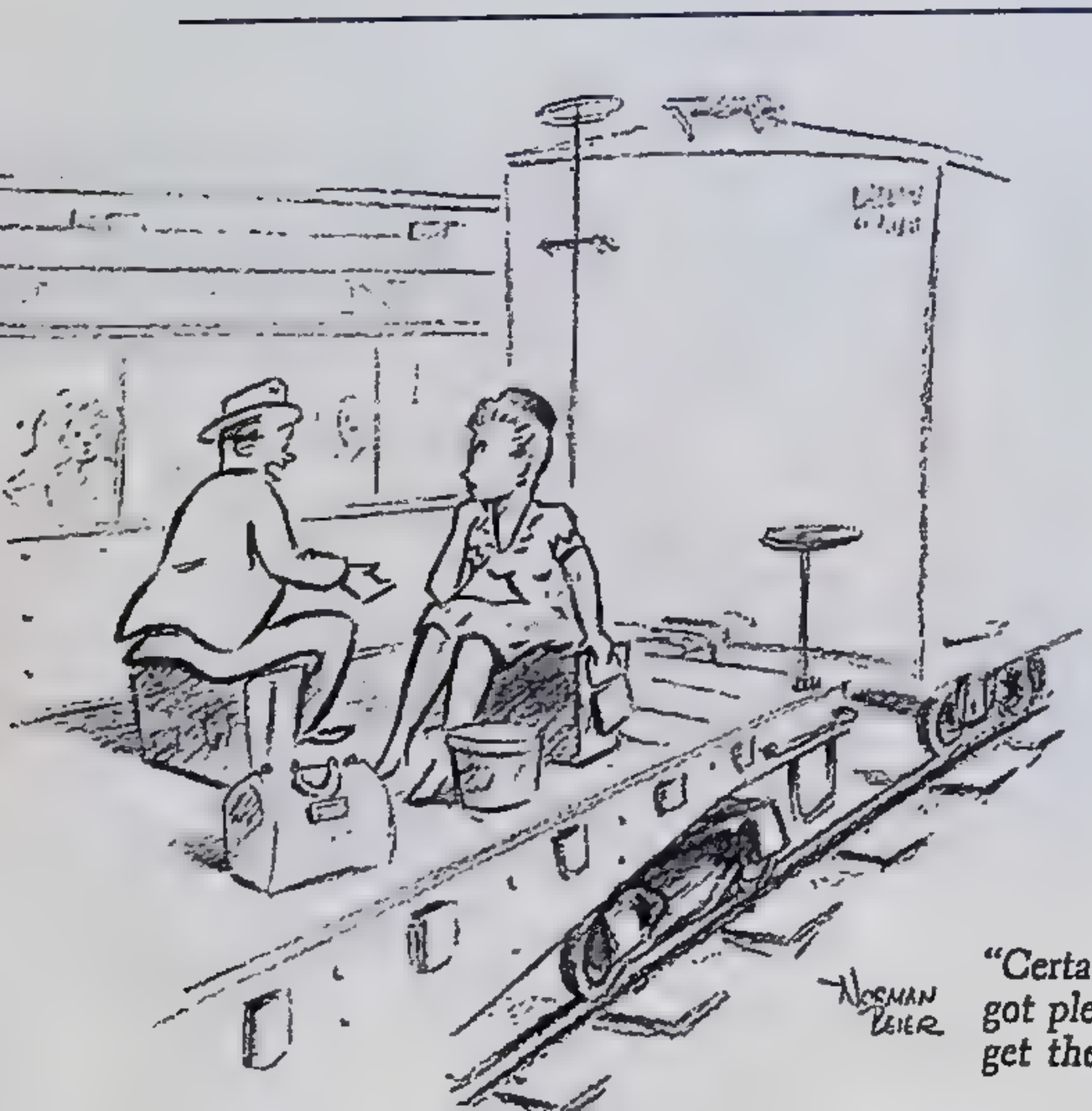
The administrative organization of the state railways has undergone few changes since its beginning, just 41 years ago. Its main characteristics are simplification and efficient operation of all services. Furthermore, careful consideration is given to regional interests and requests by the 22 sovereign cantons making up the Swiss Confederation. One of the federal councilors is also minister of posts and railroads, with wide discretionary powers. The three-member board of managing directors (located in Berne) is the executive branch of the organization, while the board of administration handles and supervises all legal and financial matters.

The whole railroad network is divided into three subdivisions with headquarters at Lausanne, Lucerne and Zürich. This arrangement allows a certain amount of decentralization of the service and closer contact with local requirements and interests, and with the industries and the traveling public.

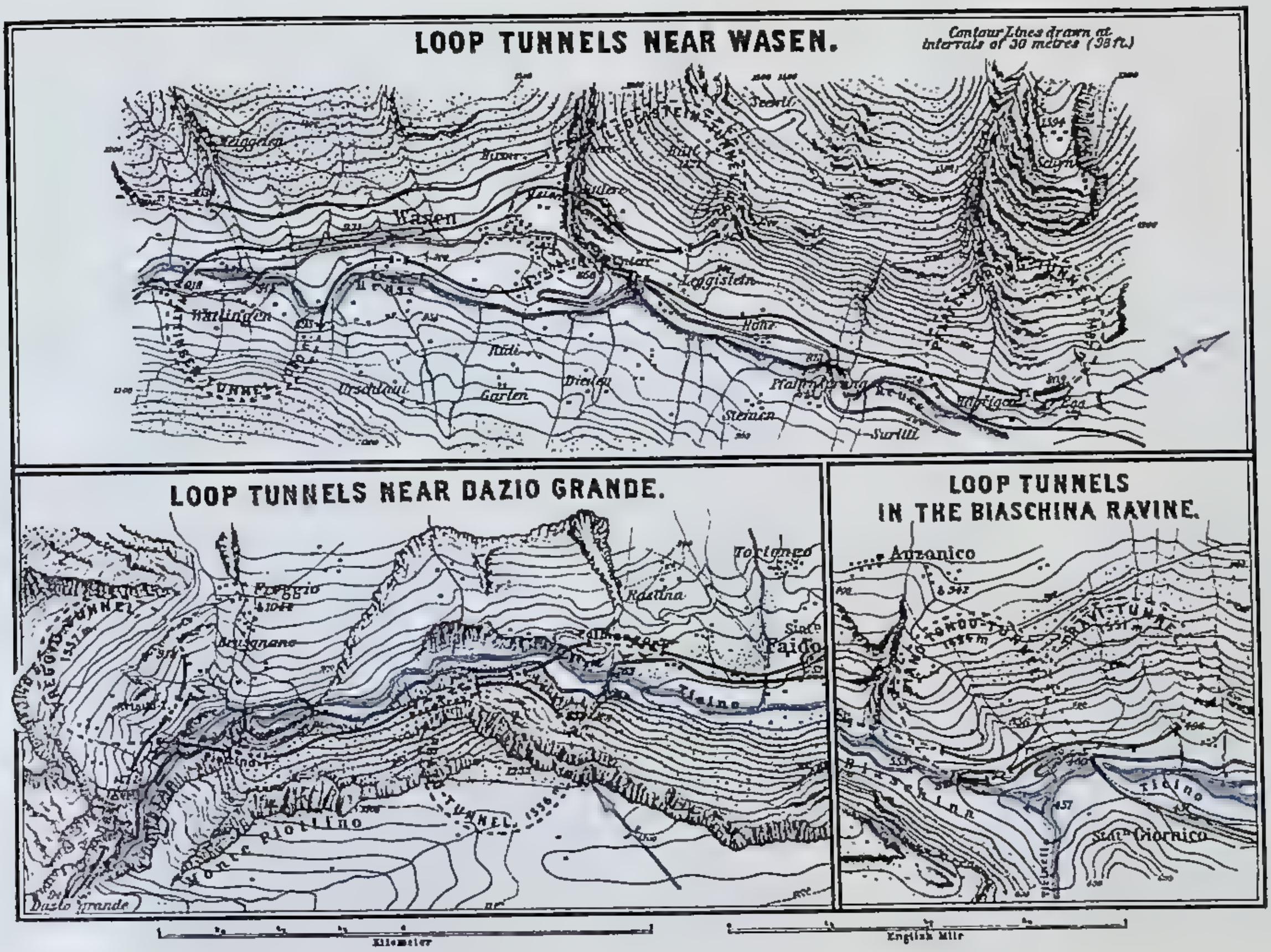
From the viewpoint of national economy and social welfare, the state railroads have had from their beginning a very great and beneficial influence on Swiss national life. The establishment of a number of employees' pension and relief funds, as well as training schools, homes for retired employees, housing settlements, sports societies, glee clubs, etc., has had a stimulating effect on other similar organizations. Also, the annual budget amounting to many millions of Swiss francs for buildings, repairs, and new road construction provides welcome work and employment in many parts of the country. It is interesting to note that the railroad also is building a museum of railway and travel interest for the public at Zürich.

The Swiss railroads, with 3218 miles of line and 688 tunnels, not including avalanche galleries and thousands of bridges, have given much care to the building and maintenance of good trackage, proper signaling systems, protection of right of way (against wandering cows, etc.), and the inauguration of safety measures and constant watchfulness for avalanches in the alpine regions. Grade-crossing elimination, double-tracking and many improvements in freight yards and station buildings are included in every annual construction budget.

Foreign travelers often comment on the attractiveness of the small stations and guardhouses. Best known for this feature are the Rhaetian Railway (east Switzerland) and the scenic Montreux-Oberland Railway (west-central Switzerland), which built their stations in the local chalet style surrounded by trees and gardens. To maintain interest in the attractiveness and cleanliness of the stations and guardhouses, frequent contests are held and prizes awarded to the winners. Much emphasis is laid by both state and private lines on blending the tracks and all physical construction into the scenic landscape, thus avoiding eyesores which may spoil the natural beauty of the alpine regions. This endeavor is supported by an organization called "Protection of Home and Nature" through whose watchfulness and friendly suggestions many an unpleasant feature and mistake in railroad building has been corrected. No ugly posters are allowed to mar the views from the train windows, nor can large advertising signs be placed too close to the tracks or in scenic spots. This applies to stations as well as the open line. However, good advertising in



"Certainly this is the best way to travel. We've got plenty of room, an air-conditioned car, and we'll get there first."



Line developments on the St. Gotthard route.

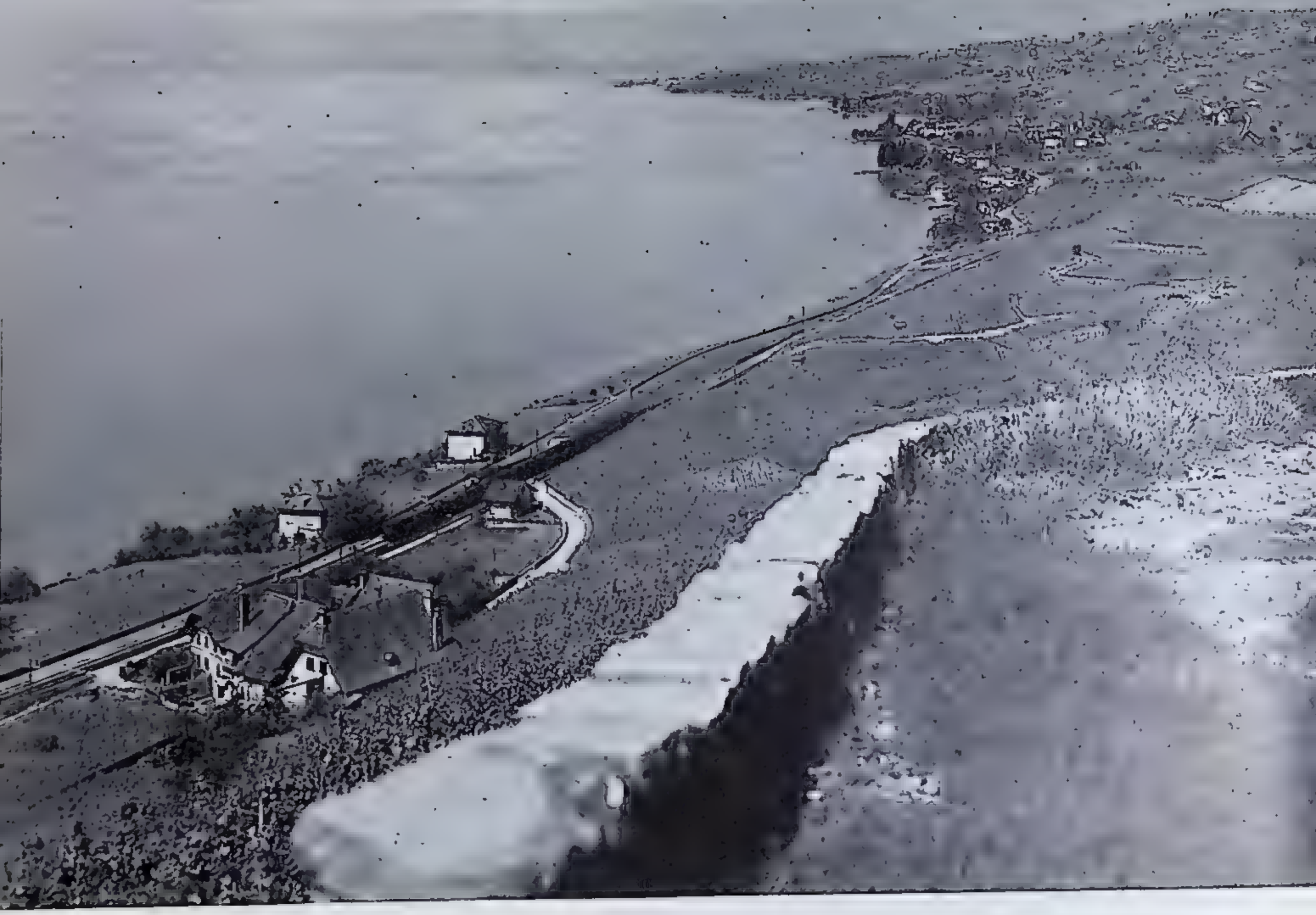
various forms and methods receive a prominent place on all the premises of the state railroads and the railroads themselves have produced many outstanding posters.

One of the most important problems in railroad operation is the type of power to be used to move trains economically at the desired speeds. Since Switzerland has no indigenous coal deposits, all fuel has to be imported from other countries at great cost. At the turn of this century a group of Swiss electrical engineers set out to make some thorough research on the use of electricity in train operation. As a result of this painstaking pioneer work, the Swiss railroads are now over 80 per cent electrified on a far more extensive scale than any other country.* Abundant waterpower, stored up behind great artificial dams in the mountains, is conducted to numerous powerhouses where turbo-generators produce electric current for the overhead catenary systems.

The regular maintenance of train services on the electrified sections requires a great number of locomotives for both heavy service on the alpine grades and for fast traffic in the hilly middle land. Stimulated by these varied requirements, the Swiss locomotive works of Winterthur, Oerlikon, Brown-Boveri Company, and Secheron have produced remarkable types of efficient Diesel and gas as well as electric engines. The latest achievements are the 12,000-horsepower "Gotthard" double-unit engines, with a total length of 112 feet and weighing 513,300 pounds. These giants are able to haul a train of 770 tons (excluding the engine's weight) at a speed of 46.5 miles per hour up the 2.7 per cent grades of the St. Gotthard line; they are the most powerful electric locomotives in the world.

The popular new *Arrow* trains were originated to better serve local traffic, especially in the Summer season. The first type was the *Red Arrow*, a single high-speed car accommodating 38 passengers. Later, a larger and multiple-unit type, called the *Blue Arrow*, was put in operation on the Lötschburg line, while the *Jura Arrow* trains circulate in the rugged territory

* Notice the preponderance of electrified lines (shown with crossties) on the map, pages 24 and 25, as against steam lines (without crossties).



of the Jura Mountains. The latest development in fast train movements is a pair of streamlined trains consisting of a limited number of light cars, operating daily in both directions between the cities of eastern and western Switzerland, and these are called "rail lighting."

In his guidebook on Switzerland for 1874, Thomas Cook said: "Swiss railway carriages are as superior to English cars as broughams are to prison vans. . . ." Since those early days the railway cars have been steadily improved. Third-class cars are the most popular and widely used, while second-class cars are favored for long distances. First-class is now found only on express and limited trains. From the beginning, Swiss railway cars, unlike those in most parts of Europe, were built according to the American plan with entrances at each end and a corridor down the middle of the car. Typically Swiss, however, are the generously wide windows, easily opened from the top down and allowing a good view of the countryside. Another feature is the good ventilation in warm and cold weather, and the cleanliness of the cars—a fact often favorably commented on by foreign travelers.

Ever since the establishment of the first continental through-train, the *Orient Express* (Paris-Vienna-Istambul), in 1883, European railway systems have endeavored to launch new express-train services and make them popular by special equipment, service, and glamorous names. Twenty-three years after its first run, the original *Orient Express* was divided into two sections, both of which crossed Switzerland on two routes: the *Simplon Orient Express* and the *Arlberg Orient Express,* both named after the alpine tunnels through which they passed on their runs.* In the years before World War I, the *Lloyd Express* was a favorite north-and-south through-train from Hamburg, Bremen and Berlin to Basel, and (via the St. Gotthard line) to Milan and Genoa, Italy. This train was especially used by ships' passengers bound for Egypt and the Near and Far East. This train, now called the *Riviera Express,* was re-established and speeded up, which made it for some time the best

* A third section was later operated via Stuttgart and Munich in Germany.

Swiss Federal Railroad Agency.

Vineclad slopes of Lake Geneva.

The Simplon Railway runs for 20 miles within sight of these quiet waters in the middle lands of Switzerland. The Juras are seen in the distance, while the city, only a few miles away, is Lausanne. The train is an eight-car local-service similar to our multiple-unit suburban trains except that the motor cars on each end have sufficient power to handle the six trailers between them. Although this line is now known as the Simplon Route, it ran all the way from Vallorbe, on the French border in the Juras, to Brig long before the tunnel into Italy was built. Much of the Paris-to-Rome and Paris-to-Istanbul traffic runs over this route now.

Swiss train connection between Germany and Italy.

In 1930 the Swiss Federal Railways introduced a de luxe type of express train and significantly called this new train the *Gotthard Pullman Express*. The train consisted of eight cars and a diner of the Swiss Dining Car Company. The cars were fitted out like fine sitting rooms, with comfortable easy-chairs and individual small tables and lamps for each passenger. Large windows allowed a full view of the passing scenery on both sides. This limited train ran daily during the Summer months from Basel, Zürich and Lucerne to Milan over the St. Gotthard line. Running on fast schedule and making connections at both ends for points beyond, this *Pullman Express* was quite a success.

For the convenience of the many visitors coming from England, a special train with first- and second-class accommodations and sleeping cars was established. This very popular *Oberland Express* left London at 2 p. m. via Calais-Dover car-ferry, and reached the famous tourist resort of Interlaken, near Berne, at 10 the next morning. By midafternoon that day most English visitors could be at their favorite resorts in the alpine Bernese Oberland. It was the ideal connection between England and Switzerland for the "long weekend."

Those visitors who preferred the Grison alpine region for their sojourn could take a similar express train from London via Basel, Zürich and Chur to fashionable St. Moritz, with an extension to the sports center of Pontresina in the heart of the Grison Bernina Mountains. The running time of this *Engadine Express* was also 20 hours straight.

There are sections on the Swiss railroads, in particular in the alpine regions, where for miles the tracks run through a steady succession of short and long tunnels, viaducts, avalanche galleries, short bridges, and mighty spans across chasms. All the while, the line rises or falls in a heavy grade, makes curves and sharp twists, hugs steep mountainsides, crosses and recrosses the valley, as if to avoid avalanche gulleys and high cliffs. In many places, the railroad, the highway and the roaring mountain stream seem to fight their way through the narrow valleys and past gorges. A trip over such routes is a bewildering but highly interesting experience. Let me describe a great figure-8 trip through the Alps, the Grisons and the Bernese Oberland. It will give you a clear picture of mountain railroading in Switzerland.

We start at Berne, a city which can be reached in only a few hours from any part of Switzerland, while tunnels of three to five miles in length pierce the nearby Jura Mountains for connections to Paris, Brussels, Calais and Hamburg. Our train, which we take only as far as Brig, is an express from Paris to Milan, Italy, via the Lötschburg route. For 25 minutes the train rolls quietly up a broad valley to Thun, where we get our first really good glimpse of the beautiful Bernese Alps, reflected in the waters of Lake Thun. Our train leaves the tracks of the Swiss Federal Railways to skirt the lake as far as Spiez on the Bernese Alpine Railway, a ride of scarcely 15 minutes. This railroad continues to Interlaken, but the express turns abruptly to the right and passes through a tunnel into the Kandertal.* High on the right is the

* *tal* is a Swiss syllable meaning "valley."

Niesen, a peak famed not so much for its height as for the wonderful view of the Alps that can be obtained from its pointed top. Running up its side is a cable railroad, or "funicular," a mile and a half long, which was for many years the steepest railroad in the world, having a maximum grade of 66 per cent. Because of the difficulties involved in its design it was necessary to build this line in two sections, end to end, and travelers must change cars partway up. The mountains are closing in on us rapidly and at Frutigen we roll on to the tracks of the Lötschburg Railway proper.

The Lötschburg, started in 1906 and completed in 1913 by a French company, forms a shortcut from the north portal of the Simplon Tunnel to Paris via Berne. There are 34 tunnels and 22 bridges and viaducts, not including several avalanche galleries, in this line, which is only 38 miles long. Like most main lines in Switzerland, the railroad is double-track, although for some years the most difficult parts were operated by single track only. The maximum grade is 2.7 per cent, the same as the St. Gotthard and Simplon routes.

Soon the train is climbing the ever-steepening valley, which it crosses by the Kander Viaduct (shown on page 33). The railway now ascends in two large bends, forming a sort of bow knot, the second of which threads a spiral tunnel almost a mile in length to reach Kander Steg near the north portal of the Lötschburg Tunnel. This tunnel is nine miles long and it takes the train 12 minutes to pass through it. Originally, the bore was to be perfectly straight, but the engineers ran into so much difficulty when they disastrously pierced a stratum of gravel under the valley that they had to deflect the tunnel to the east with two reverse curves. This put an unusual burden on the surveyors whose responsibility it was to make the two ends of the tunnel meet.

Red Arrow

Swiss Federal Railroad Agency.

You can charter one for a day's outing.

Soon we are on the most difficult section of the Lötschburg Railway, where it threads along the escarpment above the Rhone Valley. Far below on the right is the flat valley floor and the main line of the Simplon Railway. Our line hugs the steep slopes and each time a glacial stream is crossed the railroad crosses a steel viaduct, while many sawtooth ridges are pierced by tunnel.

Across the valley is the mouth of Nicolaital, up which a little narrow-gauge railway winds its way to Zermatt, at the foot of the famous Matterhorn. In a few more miles the Rhone Valley has climbed up, and the Lötschburg Railway has descended, to Brig. Brig is an important town on the Simplon road built by Napoleon. Its present-day importance is as the junction point of the Lötschburg and the Simplon roads, as well as a tourist center for many nearby alpine regions. A mile east of the town is the north portal of the famous 12½-mile Simplon Tunnel, longest railroad tunnel in the world and lowest of the alpine crossings. Actually, there are two tunnels side by side, with a station in the middle on the Swiss-Italian frontier, 2300 feet above sea level but under 10,000 feet of rock, where luggage and other belongings are examined. The first Simplon was completed in 1906 and the second in 1922.

At Brig we take the Summer-only *Glacier Express.* The *Glacier* is unusual as narrow-gauge trains go, for it operates over several different railroad lines in the toughest kind of mountain country. On the way from Zermatt to Brig the locomotives have to descend several sections of rack-equipped track in order to

Kander Viaduct

Swiss Federal Railroad Agency.

A monument to the many lives lost in building the Lötschburg Railroad.

guarantee traction, while beyond Brig there are the added features of two spiral tunnels under the mountainside.

Near Gletsch there is a bridge which is dismantled every Fall and stored in a nearby snowshed to protect it from the heavy storms. Just beyond Gletsch the *Glacier Express* must negotiate the Furka Pass. While the pass itself is pierced by a tunnel a little over a mile long, this tunnel is so high above the adjacent valleys that it is approached on each side by sections of rack railroad so that a toothed wheel on the locomotive can literally gear the train to the mountain. It is not necessary to use special locomotives on these rack sections, as the regular road engines are equipped with the necessary rigging. At Andermatt the train is more than a thousand feet directly above the bore of St. Gotthard Tunnel. Just beyond is Oberalp Pass, which is so steep that even the rack rail is insufficient to overcome it, so there, in addition, the railroad makes a winding zigzag with five levels of track, one above the other on the side of the mountain. Beyond Disentis we are on the lines of the 174-mile Rhaetian system, which has almost a monopoly of the Grisons Mountains of Switzerland. For some miles we follow the valley of the Rhine River, but before reaching Chur we turn into the Domleschg, eventually to cross the Albula Pass near St. Moritz.

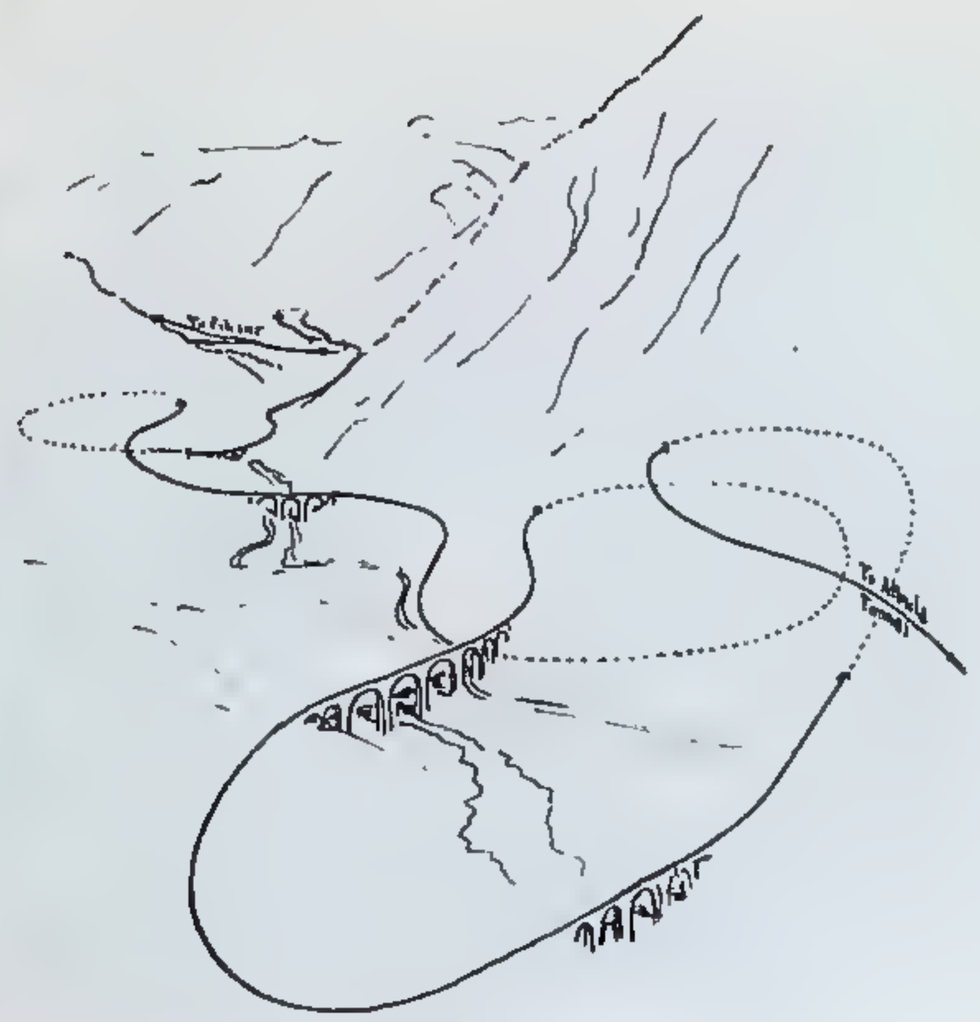
The highlights of this section of the trip are so many that it would be impossible to describe them all, but certainly the Landwasser Viaduct near Filisur should be mentioned. Here the track, high on the side of a mountain gorge, crosses a great curved stone viaduct of six arches, 213 feet above the water, and dives into

Like a concoction from Norman Bel Geddes' "Highways and Horizons," New York World's Fair.

Swiss Federal Railroad Agency.

Brusio Loop

Swiss Federal Railroad Agency.



They outdid Georgetown.

This loop development near the Albula Tunnel of the Rhaetian system is only a part of the complicated approach to the summit. One of the helical tunnels actually passes beneath another. The sketch above is an approximate diagram of the track in this vicinity. Right, the Bernina Railway at Lago Bianco, near its summit. The line has sharp curves, seven per cent grades, and is the highest adhesion crossing of the Alps. Notice the bow trolleys.

an abrupt cliff through a short tunnel, this cliff being quite vertical. A few miles north is Davis-Platz, one of the most famous ski resorts in the world. Beyond Filisur is another spiral tunnel, but by this time spiral tunnels are commonplace, and as though the engineers wanted to do something really big they included one of the most complicated railway developments in the world, a few miles beyond. In a direct distance of 3½ miles they have worked in 7¾ miles of railroad, making an ascent of 1330 feet with a grade a little heavier than three per cent. The line first ascends in a double hairpin, or bowknot, arrangement, so crowded upon itself that the top level twice crosses over the lowest loop. After crossing the Tisch Viaduct, 130 feet high, and going through three ordinary tunnels, the line enters the Rugnux spiral tunnel, turning around and crossing over itself. Then it swings to the other side of the gorge, mounting through two more spiral tunnels, one directly above the other, and in another moment is in the 3¾-mile Albula Tunnel, at the summit of the line. In a few minutes the *Glacier Express* reaches its terminus at St. Moritz.

After a short stay to enjoy skiing and other sports at St. Moritz and Pontresina, we take the Bernina Railroad to Tirano. This is claimed to be the steepest passenger-carrying railroad operated exclusively by adhesion. The grades are seven per cent. The line also reaches the highest point in Switzerland gained entirely by adhesion, 7400 feet above sea level at Bernina Pass. Like the lines traversed by the *Glacier Express*, it is also narrow-gauge.

Just before we cross the Italian border on the far side there is another spiral of engineering interest. This time, instead of turning into the mountainside, the line swings into the valley on a curved viaduct and makes a complete circle to pass under the same viaduct, by curves scarcely broader than would be found on a streetcar line.

From Tirano we take a narrow-gauge railroad to Colico and a steamer on Lake Como

Most unusual tunnel.

The Apennine Tunnel, second longest railroad tunnel in the world (the longest is the Simplon), is probably the world's most unusual. It is 11½ miles long. At its center is a large "station" on the main line. Paralleling the main-track tunnel are two other tunnels more than 2000 feet long which house passing sidings 1970 feet in length. Freight trains use the sidings to allow the passage of fast passenger trains. The Apennine is on the 51-mile Bologna-Florence Direct Railroad which connects northern and central Italy, and on which route are 21 tunnels and 28 viaducts or bridges.

Swiss Federal Railroad Agency.

to Menaggio. Lake Como is perhaps the most beautiful of the Italian lakes, with mountains overhanging it and beautiful flowers and villas along its shores. The isolated little railroad from the boat landing at Menaggio is a portage line in the true sense of the word, for it connects with no other railroad and merely serves to take passengers from the steamboats on Lake Como over to the steamboats on Lake Sugano, where we steam into Swiss territory again.

Perhaps you didn't realize that much of the Italian side of the Alps is actually a part of Switzerland. Thus, of the three famous Italian lakes—Maggiore, Lugano and Como—nearly all of Lugano is in Switzerland and a good part of one end of Maggiore is also. The Swiss Federal Railways, whose southern terminal is at Chiasso, is less than 20 miles from Milan and yet it is still in Swiss territory.

Our steamer lands us at Lugano on the lake of the same name. To the south we can see the St. Gotthard Railway coming up from Chiasso. It crosses the lake at a narrow point by bridge. We are at the southernmost point of our figure-8 trip and are about to take an express over the St. Gotthard to Lucerne. The railroad is double track for left-hand running, like most Swiss main lines. It includes seven spiral tunnels in its ascent and descent of the main divide. Near the south end of the main tunnel at Piotta is one of the great power houses which develops the electricity for the line. A funicular or cable railway was built beside the penstock pipes in order to facilitate the construction of the aqueduct. This cable railway is open to the tourist and is the steepest railroad of its kind in the world, having an average grade of 72 per cent and a maximum grade of 88 per cent.

From Göschenen, at the north portal of the tunnel, runs a short railroad known as the Schöllenenbahn, which ascends to Andermatt through the Schöllenen Gorge. This little line

Swiss Federal Railroad Agency.

The Landwasser Viaduct near Filisur.

does most of its climbing by means of rack rail and passes through a narrow gorge almost directly above the St. Gotthard Tunnel. Beyond Göschenen the train descends by the loops of Wassen, which are quite similar to the bow knot on the Lötschburg line, and goes down the last spiral tunnel into the valley of the Reuss in the country where William Tell lived. Soon we are threading tunnels along the shore of Lake Lucerne, most famous of the mountain lakes.

Within only 2½ miles of the shores of this lake there are no less than 16 mountain railroads of the cable or rack type. Lake Lucerne is of very irregular shape and is an ideal place for tourist steamers. We have our choice of leaving the train at the south end of the lake and going by boat to reach Lucerne or of continuing by rail around the far side of the Rigi via Arth-Goldau. The Rigi is a mountain which springs up between Lake Lucerne and the Lake of Zug in such a way that if the waters of the two lakes were only a few feet higher all of the great Rigi would be an island. It was on the Rigi that the first installation of rack railroad in Switzerland was accomplished by N. Riggenbach in 1872. This was just three years after completion of the similar Mount Washington line in New Hampshire. Scarcely had he finished building the first of the famous Swiss mountain railroads from Vitznau on the lake to the summit than he started another similar enterprise from the Arth-Goldau side. Both cog railroads are still in use and the Vitznau line has been electrified.

From Lucerne to Interlaken we ride over the only narrow-gauge line of any consequence belonging to the Swiss Federal Railways. (Most of the narrow-gauge lines in Switzerland are privately owned.) The chief point of interest along this line is the cog railroad up the 6995-foot Mount Pilatus, one of the steepest of the railroads of this type, having grades of 48 per cent. The railroad is unique in that the teeth of the rack rail are on the sides of the rail head rather than on the top, and the locomotive is equipped with two pairs of toothed wheels which grip on each side of the rack. The electric locomotives are built right into the cars.

On the narrow-gauge section of the Swiss Federal Railways the trains have to use several sections of rack to overcome the steeper grades. Beyond Meiringen, the place where Sherlock Holmes was supposed to have disappeared, the line skirts Lake of Brienz to reach Interlaken, tourists' center of the Bernese Oberland.

Before we take our last lap of the journey past Lake Thun to Berne, which is only a few miles away, let us take a side trip to the alpine valleys at the foot of the Jungfrau.

The train is narrow-gauge and leaves from the same station by which we entered Interlaken. Some of the cars are marked Lauterbrunnen and the others Grindewald. We have a circular-tour ticket permitting us to go via Lauterbrunnen to Kleine Scheidegg and return by Grindelwald. The line runs almost due south into the gorge of the Lütschine. High above us on the left is the Schynge Platte Mountain Railway. After a rather short run, the train is parted, some cars running to Grindelwald while ours proceed over short rack-and-pinion sections to Lauterbrunnen. Each of these Swiss villages is located beneath great glaciers.

From the terminus at Lauterbrunnen we change cars to the rack railroad known as the Wengern Alp Railway. A view from this line is shown on page 26. It runs to a summit at Kleine Scheidegg and down into the next valley to Grindelwald. A third railroad, the Jungfrau Railway, commences at Kleine Scheidegg.

Picture yourself at the summit of an alpine railroad on the divide between two great valleys 6770 feet above sea level. Yet, at this height, with all the valley below you, you are only at the lower terminus of the Jungfrau Railway! This ambitious line, finished in 1912, is perhaps the engineering triumph of all mountain railroading. It ascends far above the snow line and throws open regions hitherto accessible only to expert mountaineers. After a short ride in the open, this one-meter-gauge line ascends to the top of the mountains in tunnels beneath the crags. These are no side-hill tunnels; they pierce right through the mountains. Every mile or so there is an opening between two tunnels; and a station, sometimes on the north side of the mountain and sometimes on the south, permits the tourist to view the surrounding Alps from ever-higher vantage points.

After 5¾ miles of climbing through a total of more than four miles of tunnel, we reach the Jungfraujoch, 11,340 feet above sea level, the highest railroad station in Europe. All around us is a sea of glaciers and deep valleys, and we see views which, before the railroad was built, could only be seen after hours of strenuous climbing with guides, rope, and all that goes with it. What better place is there to reflect upon the railway wonders of Switzerland?

At Oxford (above), as at Peach Bottom and Quarryville, her other two terminals, Peachy shared the Pennsylvania Railroad's passenger station. The standard-gauge track is that of the Pennsy's Octoraro Branch. Except for the third rail and the horse and carriage, Oxford station looks much the same today.

Peachy

☆ Lancaster, Oxford & Southern once had big plans, but its narrow gauge was a handicap.

By William Moedinger Jr.

To a little world of lush green valleys and bumper crops, a land perennially alive with the delicate green of Winter wheat pushing through the moist, brown loam; with golden-brown seas of ripening grain rippling in an early June breeze; with Autumn's display of coloring leaves, shocked corn, and yellow pumpkins —to this veritable rural paradise, add 28 miles of meandering three-foot-gauge track and 19 pastoral way-stations. Arrange the whole scene in the most tantalizing Christmas Garden fashion, and on the track carefully place four brass-adorned locomotives, six open-platform wooden coaches, and two dozen box, flat, and stock cars. You now have a recipe which will please the most finicking railroad connoisseur.

Generally, it is a recipe that might well be used to describe many a narrow-gauge railroad that 40 or 50 years ago was a part of the American scene. Specifically, in southeastern Pennsylvania, it is the recipe for Peachy at the pinnacle of her somewhat brief career.

In her heydey, during the latter half of the first decade of the present century, Peachy began in the thriving Chester County town of Oxford and straggled westward 12 miles to Fairmount. There, in wye-like fashion, she reached out with two eight-mile lines. One extended north in a similarly devious route to Quarryville, while the other writhed southwestward to the Susquehanna River hamlet of Peach Bottom. Save for Oxford, where the company shops were located, and Quarryville, Peachy served no centers of population. Every one of the on-line stations, bearing such down-to-earth names as Tweedale, Murry Glen, Goshen, and West Brook, was merely the chosen name for a very ordinary, though certainly picturesque, railroad station which served as the focal point for the commercial life of the surrounding countryside.

To the local populace, Peachy's biblical designation of "Lancaster, Oxford & Southern" was sheer highfalutin' for the more accurate translation, "Little, Old & Slow." Peachy was slowness personified, and old-timers insist that just missing a train on the LO&S did not necessitate waiting for the next one, but merely a brisk, short-cut walk across fields to the next station, where, if one had really hustled, he

still would have ample time to absorb most of the current local gossip from an unhurried station agent before Peachy made her appearance around the bend. Yet Peachy's flagrant disregard for the prevailing schedule was normally a source of proud satisfaction to the natives, for her failure to adhere to the advertised was, more often than not, the result of a kindly disposition and not a physical weakness. Occasionally, of course, her tiny wheels would climb the rails and drop into the soft, brown loam, which, like the track, lay camouflaged beneath a blanket of velvet green; but usually her late arrival at any of the three terminals could be traced to several uncarded stops she had made in order to oblige tardy trackside residents.

Every byroad, lane, or cowpath which crossed her tracks was a potential station. A farmer whose field flanked the right of way invariably would keep right on tilling the soil until he saw her round the bend; then a wave from his frayed straw hat would bring Peachy to a halt within his nearest walking distance. To everyone along the line, Peachy was equally obliging. Housewives never left their domestic chores until Peachy's complaisant whistle sounded for the nearest grade crossing. Anything from a crate of eggs to a pair of calves—the latter tied securely to the nearest fence post—placed pretentiously along the track would bring Peachy to a screeching stop for the welcome extra few pounds of unexpected freight. Split-second performance, by public choice, was not one of Peachy's virtues.

DEPARTING from the Pennsylvania's riverside station at Peach Bottom at 7:30 in the morning, while the fragrant countryside still glistened under a sheen of refreshing dew, an Oxford-bound train signaled the beginning of Peachy's daily routine. During the next 10 or 12 hours, at the end of which time the train returned to Peach Bottom for another night's rest, she made two round trips between her appointed terminals. In the meantime, 20 minutes after the Peach Bottom-Oxford train began her first shuttle for the day, another Peachy, Quarryville-bound, chuffed away from the Pennsylvania's squat brick Oxford station. This one also made two round trips between her assigned terminals. By virtue of this arrangement, every way-station was served by at least four daily trains, while stations along the 12-mile Oxford-Fairmount stretch saw eight regularly scheduled trains six days out of seven. The schedule of each train was not only timed to provide fairly convenient connections at its respective terminals, each of which was served by passenger trains on branch lines of the ubiquitous Pennsylvania Railroad, but the twin trains always met at Fairmount, thus affording patrons the equivalent of through service between stations along the Quarryville and Peach Bottom lines. Supplementing regularly scheduled trains on the Oxford-Peach Bottom run was the early-morning market train, a regular Tuesday-and-Friday institution. After deadheading from Oxford in the wee hours of the morning, this train began its revenue run at Peach Bottom just after the regular morning train, picking up poultry, eggs, milk, and produce consigned to the Philadelphia markets. Not much of a passenger train, it was, nevertheless, a good revenue-producer, for Lancaster and Chester County farm products have always been held in high esteem by the residents of Philadelphia.

Every one of the eight daily-except-Sunday trains was of mixed consist, handling, in addition to all of the passenger, mail, and express business, virtually every ton of l. c. l. and carload freight which moved over the railroad. The equivalent of one round trip every day over the entire system was operated on a schedule that permitted handling all of the carload traffic as well as the heavier, time-consuming l. c. l. work. The remaining two trips were operated on a schedule obviously intended for passenger consumption, though painfully slow in the light of present-day standards, and only l. c. l. traffic of a light nature and an occasional carload of perishables were handled on these runs. To passengers and shippers alike, mixed operation was decidedly beneficial. The movement of freight on all trains provided local shippers with express-like freight service, while natives enjoyed two additional trains by accepting the slight inconvenience of a freight car or two ahead of every coach. Thoroughbred freights were comparatively rare, although harvest time, with its bulky tonnage, usually saw several of them every week during the peak of the season.

Conditioned as we are to present-day train lengths, freight and passenger, Peachy's eight-trains-a-day schedule is likely to conjure up illusions of tremendous business over the little road. Actually, however, Peachy's total business wasn't a drop in the proverbial bucket. Taking her 2950 trains for the bumper year 1907, which included every train, regular and extra, which

All photos from the collection of the author.

At the height of her career, Peachy was showy and handsome and as well groomed as any mainline express train that ever pounded the high iron. Engine 3, above, was the most ornate of all of Peachy's engines.

operated that year, we find that only 36,000 passengers were hauled during the entire 12 months, or just about as many people as the Espee's *Daylights* whisk between Los Angeles and San Francisco every three weeks. For a typical day, tabulations at the main office in Oxford would record some 90 revenue passengers at an average paid fare of 32 cents apiece, while the freight department (the same man at the same desk after he had tabulated the passenger receipts) reveled over daily receipts of $55, gleaned from the movement of 40 or 50 tons of freight over some portion of the road at an average of $1.14 per ton. It was a happy day in the little office when gross receipts topped $100. Yet, incredible as it may seem, Peachy, on daily receipts amounting to no more than the cost of a prewar coast-to-coast Summer excursion ticket, managed not only to pay all operating expenses, maintenance costs, and administrative expenses, but to lay aside approximately $28 for fixed charges and still have $12 profit.

On the Sabbath, Peachy was required to render a minimum of service. Serving a countryside inhabited by God-fearing folk, among whom was a generous sprinkling of devout Quakers, Peachy, of course, abstained from moving any freight on the day of rest. For a few years the railroad did operate four Sunday passenger trains. Rarely netting the company as much as $25 from fares, they were operated solely as a public convenience. Yet curiously enough, Peachy's biggest day of the year, the day on which her half-dozen coaches and two dozen freight cars were taxed to capacity, fell on a Sunday.

On this particular day, which reoccurred annually the second Sunday in August, the usually dormant negro community of Arcadia, three miles east of Peach Bottom, sprang to life with the celebration of Rigby, a one-day negro camp meeting. Regularly attended by colored folks from every nook and cranny in the Middle Atlantic States, Rigby was—and still is, for that matter—always held at Arcadia, with its dozen or so whitewashed frame houses and its friendly church invitingly nestled amid great trees on the adjacent hillside. For this inordinate deluge of traffic, Peachy prepared more than a week in advance, installing benches and crude seats on every available freight car.

Late Saturday afternoon, the throngs began to pour into Oxford. Sunday morning trains brought those from farther away, and Rigby was again in session, practically if not officially, with the jubilant departure of the *Rigby Special* from Oxford late Sunday morning. Puffing through luxuriant green valleys, with every car jammed to the end sills, it presented a sight

Every Monday and Wednesday morning, Peachy spotted a box car at Westbrook, on the siding in the foreground. On Tuesday and Thursday mornings the market train would pick this car up, loaded with eggs for Philadelphia. The engine is No. 5.

that attracted white folks from miles around, and, incidentally, stayed many a pious Quaker from his righteous place in the Friends' Meeting House that Sunday Already loaded to capacity, and with each mile adding new passengers from the surrounding countryside, the crew, with characteristic shortline resourcefulness, simply requisitioned every freight car that stood empty along the line. Those who had to accept transportation in rolling stock gleaned from the rear of a typical on-line warehouse were treated to a standing ride, not infrequently in a car whose recent lading of phosphate, lime, or odiferous fertilizer became all to evident with each successive joint in the rails. Peachy that day also made connections with Pennsy trains at Peach Bottom and Quarryville, but the majority of folks came via the latter's Octoraro Branch through Oxford, thus netting Peachy a considerably longer haul than if either of the other two terminals had borne the brunt of the traffic.

Biggest event of all in Peachy's life was the semi-annual Oxford Fair, for it meant hauling virtually every soul, young and old alike, who lived in the neighborhood. Because of its three-day duration, patronage on any one train failed to reach that on the illustrious *Rigby Special,* but it was not unusual on a Friday, the last day of the Fair, for the regular morning train to carry every available coach, in addition to several flat and box cars, to accommodate the Oxford-bound throngs. One engine, either 5 or 6, was quite capable of pulling the load, except up the long grade from Hopewell to Oxford. Here the train invariably stalled and would have to wait until the market train, close on its heels, arrived. While its engine did pusher duty, the market train, also well filled that day, was left standing in the middle of a corn or wheat field. Passengers seldom were bored while waiting, for the crew would always take the situation in hand by staging an impromptu entertainment which everyone enjoyed as much as a Sunday-school picnic.

As originally conceived, a few months after Lincoln's inauguration, Peachy was to have been an anonymous portion of the standard-gauge trans-Pennsylvania Wilmington & Western, whose thrust from Wilmington, Del., would have tapped the rich, virgin agricultural and mining country between the main lines of the Pennsylvania and the Baltimore & Ohio railroads. The thunder of guns south of the Mason and Dixon Line delayed all progress beyond the survey stage until after the war. By 1866, when the project was again revived, it was discovered that other railroads (like the Western Maryland, for instance) had either been completed or were in the course of construction and would serve much of the country through which the Wilmington & Western was to pass.

When the big interests dropped the idea, the farming interests of southern York, Lancaster, and Chester counties salvaged usable portions of the ill-fated Wilmington & Western project and obtained a charter from the state authorizing them to build the Peach Bottom Railway. Public enthusiasm ran high, but the project nearly fell through a second time for lack of funds. At the psychological moment the new promoters were bitten by the narrow-gauge fever. This, coupled with glowing reports of the success of the distant three-foot-gauge Denver & Rio Grande, which, it was reputed, even the mighty Rockies failed to stop, pushed the campaign for funds over the top. For corporate reasons, the Peach Bottom Railway was divided into divisions, and by the middle of 1872 the railroad was under construction. While not a single mile of track ever materialized on the western division (which reputedly would have linked York, western terminus of the middle division, with the Broad Top coal fields), work on the middle and eastern divisions progressed. By June, 1874, both divisions, to the extent of completed track, were opened to revenue traffic.

The ensuing seven years, culminating in receivership in 1881, spelled doom for all plans of expansion, including not only plans for construction west of York but for the erection of a

bridge across the Susquehanna to link the eastern and middle divisions. The demise of the Peach Bottom Railway, therefore, marks the rightful beginning of our story, for it was at this time that the middle and eastern divisions became two distinct railroads. The middle division [see TRAINS, December, 1941] became the York & Peach Bottom Railroad, now part of the Maryland & Pennsylvania, while the eastern division emerged as the Peach Bottom Rail*road.* The new Peach Bottom Railroad fared no better than it had as the eastern division of its predecessor. Yet, these discouraging years form the fitting preface to a second reorganization in 1890, when the name "Peach Bottom Railroad" was changed to the more grandiloquent, though somewhat misleading, "Lancaster, Oxford & Southern Railroad."

With little more than a mild financial rejuvenation and the solace of her new name, Peachy embarked upon life anew, hoping, by virtue of plans which influenced the choice of her new name, to maintain service and solvency. These plans included standard-gauging the 12-mile Oxford-Fairmount sector, construction of a new standard-gauge branch north from Fairmount to Quarryville, purchase of the Lancaster & Reading Narrow Gauge Railroad (the name of the standard-gauge line between Lancaster and Quarryville which now comprises the Quarryville Branch of the Pennsylvania Railroad), and, finally, construction of another standard-gauge branch south from Oxford to the Baltimore & Ohio's main line at Singerly, Md. Peachy began this ambitious program by immediately installing standard-gauge ties between Oxford and Fairmount, but before many ties had been laid a series of unfortunate circumstances foreshadowed certain failure for the little road's plans. One of the most important of these was the Pennsy's entrance into the Quarryville-Lancaster picture, thus depriving the road of contemplated trackage into the city of Lancaster.

Instead of completing the program of standard-gauging, the directors decided to rehabilitate the road as a narrow-gauge. The immediate prospects seemed more promising, but the next 30 years were to reveal that it was this decision which really doomed Peachy. The first step in the program of rejuvenation was the purchase of heavier motive power. Engines 1 and 2, the road's original locomotives, were 2-4-0's which barely tipped the scales at 10 tons, and it had become almost gospel along the line that train schedules depended entirely on the direction of the wind and not on the whims and fancies of officialdom.

Ten years later, after a period of probation, as it were, and convinced that Peachy had fully recovered from past ailments, the directors authorized the replacing of the 30-pound iron rails with 65-pound steel, the prelude to further expansion and heavier motive power. In 1905 the directors let the contract for the long-awaited eight-mile extenson from Fairmount to Quarryville, and when it was completed early in 1906, two new locomotives, 5 and 6, fresh from the erecting shops of the Baldwin Locomotive Works, arrived in Oxford to augment 3 and 4, which, since shortly before the turn of the century, had been handling all of the traffic. Arriving about the same time, too, were three passenger coaches and three freight cars, boosting the railroad's rolling-stock roster to six passenger cars and 24 freight cars.

Thus, in 1906, thirty-two years after the first scheduled train puffed somewhat precariously out of Oxford into an early Summer countryside behind the 10-ton *Samuel Dickey,* bound for rail's end at White Rock, Peachy, for the first time, faced life under a cloudless sky. As officialdom had hoped, the new extension was not only a wise investment in itself, but it had a tonic-like effect on the rest of the line. For the first time in the road's stolid history, annual earnings, after all deductions (which, incidentally, had increased materially with the issuance of bonds to finance the new branch), substantially topped $100 for each mile of main line. These were boom days for Peachy, although

In striking contrast to the drabness of the coach interiors Peachy's locomotives were always neatly curried. Pride o every crew that manned her was No. 3, below, purchased i 1890 from the Pittsburgh Locomotive Works.

Peachy's owners fared very poorly. Yet these frugal farm-folk didn't complain too much. Their railroad was running and serving their community as they had hoped it would some day. What's more, the track, rolling stock, and facilities in general were in better shape than they had ever been.

During the year 1910, Peachy's clear sky became dark and gloomy with clouds of rising costs and diminishing returns. Interest on the bonds could not be paid, and Peachy went into receivership. Under receivership the deficit mounted so much the following year that the road was sold to Baltimore interests. Under their management, a slight profit soon developed into an appalling loss equal to $700 for each mile of main line. This fact, combined with the lack of any personal interest in the line, caused the new absentee owners to cease all steam operations over the road on July 1, 1914. Only a gasoline-propelled handcar continued to operate, making but two daily round trips between Oxford and Peach Bottom in order to fulfill an unexpired mail contract.

To the natives, discontinuance of all steam operations clearly foreboded imminence of the junk man. Something had to be done, and without delay. The answer came three months later when six or seven residents of the neighborhood pooled their resources and bought the road—lock, stock, and barrel—for $40,000. Their first move was to restore steam trains, although they well knew that all-steam operation would soon put the road where it had been three months before.

Picking the best one of the six passenger coaches, the new owners sent it to the shops in Oxford. From these shops, some six months later, emerged that same car—this time under its own power. In early June, 1915, before its interior had been completed, one of the two remaining steam locomotives cracked its frame as it approached Fairmount. Having no alternative, the company pressed the new gasoline railcar into service. Without any fanfare, advance publicity, or christening ceremonies, an old open-platform wooden coach, with a gasoline engine mounted in the baggage compartment and connected to the front truck by a series of belts, announced Peachy's bid against diminishing revenues and mounting costs. On this impromptu run it was hailed as highly successful, but time and frequent operating difficulties eventually tempered this initial enthusiasm to the extent that steam power was restored to the Quarryville Branch, leaving the gasoline car only for emergency calls.

While all of this experimentation had been very interesting and had attracted railroad operating men from all over the country, it was not the solution to accruing deficits. In order to continue operations on the Oxford-Peach Bottom portion of the line, which still managed to break even, the Quarryville Branch was abandoned April 14, 1917, netting the owners just $7,000 short of what they had paid for the entire road less than three years before.

During the next two years, two months and six days, a conscientious effort was made to resuscitate the remaining 20 miles of Peachy. With each successive month of the war the task became greater. As a living, functioning institution, Peachy was growing worthless. As junk she was becoming fabulous. On October 16, 1919, Peachy passed from the picture, became a mere nostalgic memory.

In a world of superhighways and two cars in every garage, Peachy has no place. She belonged to the era of dirt roads and horse and buggy. But just the same, what wouldn't we give for her today—in a world of "A" coupons!

AN INSIDE VIEW

OF STEAM POWER AT WORK

Railfans who want to know what really happens in the cylinder of a steam locomotive when the engine is under way, can have their thirst for knowledge fully satisfied by inspecting C&EI's unique exhibit at the Museum of Science and Industry the next time they're in Chicago.

The exhibit consists of a full-scale driving unit with the walls of the cylinder and steam-chest cut away. The unit is electrically operated and an ingenious arrangement shows by different colored lights just how steam is admitted, does its work, and is exhausted. A large-scale indicator diagram outlined in neon tubing visually indicates the moments of each stroke.

Chicago & Eastern Illinois Railroad

C&EI

DOWN TO THE SEA IN BOXCARS

EVERY DAY enough freight cars to carry the daily food of half the people of the country roll into the seaports, loaded with war materials and other freight for export.

To do this part of the war job has, at times, meant rushing special trains of critical materials clear across the continent to catch convoys. It involves, every day, maintaining near each of the nation's ports of embarkation a sufficient "bank" of cars loaded with war freight to insure that no convoy shall be delayed, no ship shall fail to be loaded promptly.

And this is but one small, though most important, part of the day's work of the railroads. The total job means starting another freight train on its run every four seconds—starting a special troop movement somewhere in the United States about every six minutes, day and night.

Those are some of the reasons why coaches and Pullman cars are scarce for ordinary travel, why trains are sometimes crowded, why travel is not always up to the high standard which you expect and which the railroads try to maintain.

Other war needs have prevented railroads from obtaining the additional cars and engines they need, but they are using to the limit what they have and what they can get to meet the nation's demands for transportation.

Like other resourceful, self-reliant, American enterprises, the railroads are subordinating everything else to victory—to maintaining the freedom that has made America strong.

Illinois Central; data courtesy C. B. Medin.

Illinois Central 2-4-4 T

Built by Rogers, 1881.

BEFORE it was displaced in 1926 by the electric service [see front part of this issue], suburban tank locomotive No. 1402 of the Illinois Central, built in 1881 by Rogers, traveled approximately 1½ million miles, and is estimated to have hauled 115,000 trains and carried in the neighborhood of 25 million passengers—more than the combined population of London, New York, Berlin, Chicago, and Paris! Although the IC suburban service was started in 1856, regular road engines were used at first and it was not until 1880 that the first tank loco, 1401, was built especially for the Chicago suburban traffic. In those days the road operated only 18 suburban trains each way daily, and there were probably not more than four or five locomotives employed in this service.

Specifications:

Tractive force	11,862 lbs.
Cylinders, diameter and stroke	16" x 22"
Drivers, diameter	56½"
Weight on drivers	49,000 lbs.
Weight on front truck	14,500 lbs.
Weight on trailing truck	46,500 lbs.
Total weight of engine and tender	107,600 lbs.
Steam pressure	140 lbs.
Grate area	14 sq. ft.
Heating surface (evaporative)	975.62 sq. ft.
Tender capacity	Water, 1550 gals.; coal, 4½ tons

Roadway and Equipment Improvements Keep Pace With War Traffic on Missouri Pacific Lines

← Here is the first of the 15 giant 4-8-4 locomotives, for both freight and passenger service, now being delivered to the Missouri Pacific Lines. Also approved for delivery to the road this year are two 5400-horsepower Diesel-electric freight locomotives, five Diesel-electric switchers and a total of 1150 new freight cars.

→ Nearly 2000 additional coach seats are being provided for wartime travelers by the Missouri Pacific Lines through the removal of smoking and lounge rooms and other alterations in 52 units of equipment already in service. The extra seating capacity is equivalent to that which would be acquired if 25 new coaches were purchased.

← With 499.28 track miles of Centralized Traffic Control, Missouri Pacific Lines are the world's foremost users of this most modern of railway signaling devices. The C. T. C. board pictured here is located in Knobel, Ark., and controls train operations along 58 miles of the railroad's Arkansas Division, now one of the nation's busiest rail routes.

→ Recent construction and extension of 81 passing tracks permit the operation of longer trains with a greater volume of freight over the Missouri Pacific Lines' vital route to and from the South and Southwest. Other Missouri Pacific roadway improvements this year include laying 306.2 miles of new rail and the installation of 222 automatic block signals, 138 track miles of C. T. C.

[Advertisement.]

Delaware & Hudson 4-8-4

Built by American, 1943

Two unusual, attractive, but very different-looking 4-8-4 locomotives are the 800-series of the Delaware & Hudson, built by American Locomotive Company and placed in service during April of this year, and the GS-4 class of the Southern Pacific, built by Lima and placed in service during March and April, 1942. The D&H design follows that road's usual neatly trim, but nearly conventional, styling, while the SP's design, latest of the *Daylight* types, is in modernly streamlined coloring and styling. The earliest *Daylight* engines were delivered in March, 1937, and others have followed until there are now 48, in three slightly differing series. The 15 D&H locomotives are the first of this wheel arrangement for that road.

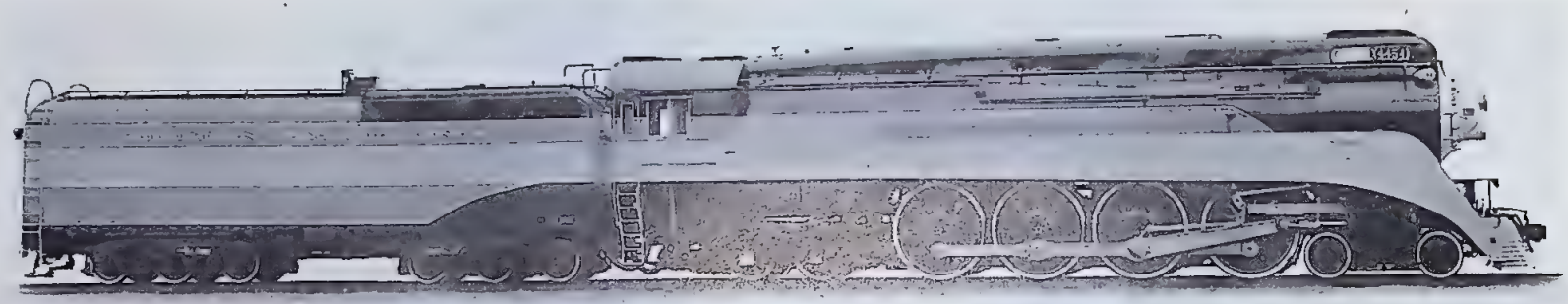
Southern Pacific 4-8-4

Built by Lima, 1942

Specifications:

	D&H	SP
Class	K-62	GS-4
Cylinders	24½" x 32"	25½" x 32"
Tractive power	62,040 lbs.	64,760 lbs.*
Drivers, diameter	75"	80"
Weight on drivers	270,000 lbs.	275,700 lbs.
Total engine weight	470,000 lbs.	475,000 lbs.
Grate area	96.2 sq. ft.	90.4 sq. ft.
Boiler pressure	285 lbs.	300 lbs.
Heating surface (evaporative)	4477 sq. ft.	4887 sq. ft.
Tender capacity:		
Water	20,000 gals.	23,300 gals.
Coal or oil	25 tons	5880 gals.

* SP tractive power with booster, 77,760 lbs.



BATTLE FLAGS

IN THE WAR OF TRANSPORTATION

Frisco's entire resources, equipment and manpower are joining all the American railroads . . . to fight and win the all-important battle of transportation. Over Frisco's rails —serving as a vital connecting link, border-to-border and coast-to-coast—move vast quantities of war materiel. Frisco's battle flags fly proudly!

R. J. Foster, P. O. Box 375, East St. Louis, Ill.

Before and after a merger.

The two neat Pacifics at the left are really only one. No. 268 of the Mobile & Ohio became No. 576 of the GM&O after the M&O merged with the Gulf, Mobile & Northern in 1940 to form a new 2000-mile system, the Gulf, Mobile & Northern. Among the humorous incidents connected with the merger is the story of the conductor who was so anxious to signalize his connection with the new company that he ordered a new cap and coat bearing the GM&O insignia *two months* before the merger took place. In case you're worried about the "fixture" between the sand dome and the steam dome on 567, it is a transformer on a pole behind the engine. Specifications: Cylinders, 25" x 28"; drivers, 73" diameter; boiler pressure, 200 pounds; tractive force, 40,755 pounds; weight (without tender), 274,640 pounds; built by Baldwin in 1926.

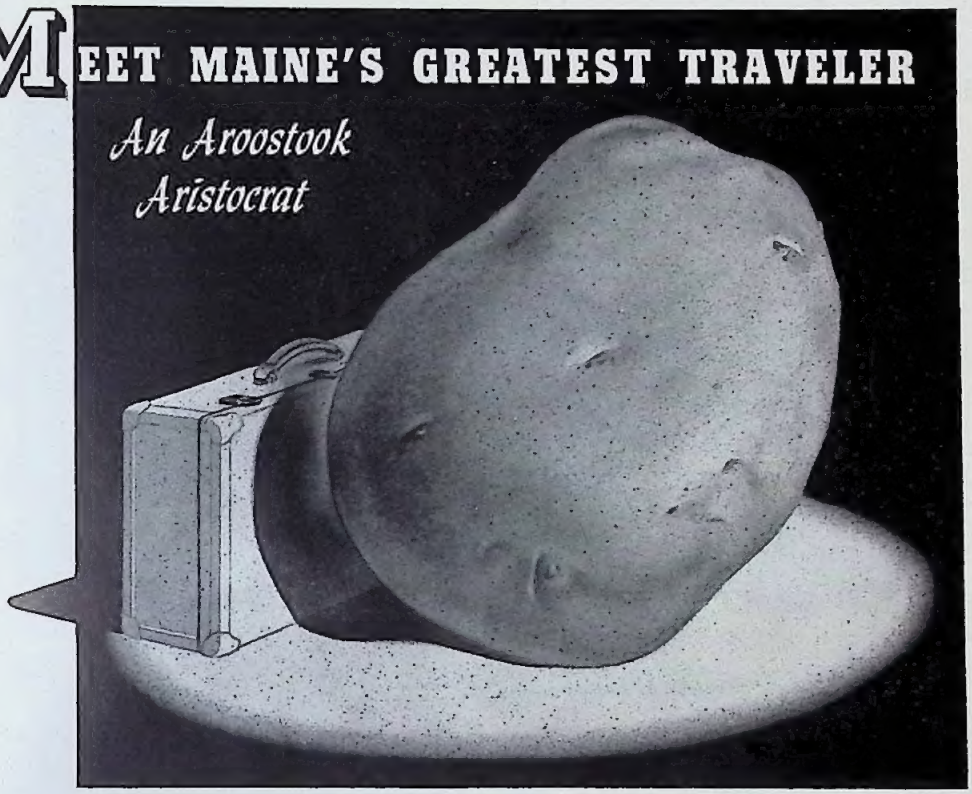
Lima 2-6-6-6 "Allegheny Type" locomotives were the first of their wheel arrangement to be built anywhere. The locomotive shown is one of a group of 10 recently delivered to the Chesapeake and Ohio Railway Company. These locomotives are duplicates of 10 built some time ago by Lima for the same railroad. Another 10 are now building in the Lima shops.

LIMA LOCOMOTIVE WORKS INCORPORATED

LIMA LOCOMOTIVE WORKS, INCORPORATED, LIMA, O.

MEET MAINE'S GREATEST TRAVELER

An Aroostook Aristocrat



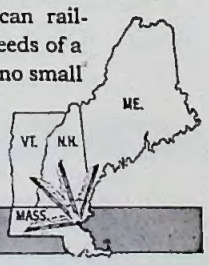
About now this native State of Mainer — and literally millions of his cousins, aunts, and relatives — starts the long trek to dinner tables all over the Eastern United States; yes, even West of the Mississippi and way down in the heart of Texas. And this year he'll be visiting war spots all over the globe.

Maine farmers, it is estimated, are producing 54,000,000 bushels of potatoes in 1943 — Aroostook County alone produces more than any single state! And right now it is harvest time. Travel time, too! That means moving 50,000 carloads over the Boston and Maine rails on the way to world-wide markets.

So when the Aroostook Aristocrat arrives, treat him kindly because he has been raised and brought up to be about the best of vegetables. Certainly right now he's got a mighty important war job supplying real wholesome nourishment to all of us in and out of uniform.

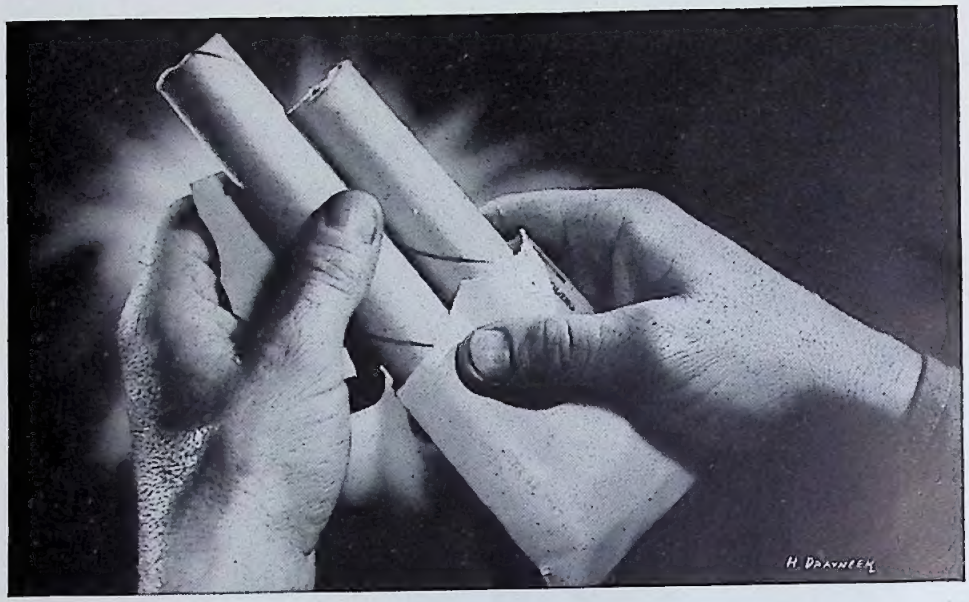
Treat him well. Not only because he's been given a lot of attention in the fields of his home towns, but he has also been handled with care by all of us who run railroads. On his way to you we have shown him great respect — speeded him on his way and delivered him to you in all his delicious freshness. Whether you bake him in your oven, French fry him, boil him or mash him, or eat him in your favorite restaurant or hotel, remember he is important to you for good health.

Remember, too, that in order to get Maine potatoes to you along with many other foods from Maine, Vermont, New Hampshire, New York and Massachusetts, a railway transportation system, busy with the needs of the Armed Forces, must carry on without interruption. That we and other American railroads are able to meet the needs of a Wartime America is due in no small measure to the understanding of the American traveling and shipping public.



BOSTON and MAINE

ONE OF AMERICA'S RAILROADS — ALL UNITED FOR VICTORY



Mister—you're getting paid in DYNAMITE!

OUR PAY ENVELOPE today *is* dynamite.

The wrong way to handle it is for us to wink at prices that look too steep . . . telling ourselves we can afford to splurge.

We *can't* afford to—whether we're business men, farmers, or workers. And here's why:

Splurging will boost prices. First on one thing, then all along the line.

Then, wages will have to go up to meet higher prices. And higher wages will push prices up some more . . . faster and faster.

The reason this can happen is that, this year, we Americans will have *45 billion* dollars more income than there are goods and services to buy at present prices.

That's the dynamite!

The RIGHT way to handle it . . . and why

Our Government is doing a lot of things to keep the cost of living from snowballing.

But the real control is in *our* hands. Yours. Mine.

KEEP PRICES DOWN!

It won't be fun. It will mean sacrifice and penny-pinching. But after all, the sacrifice of tightening our belts and doing without is a small sacrifice compared with giving your life or your blood in battle!

Here's what YOU must do

Buy only what you absolutely need.

Don't ASK higher prices—for your own labor, your own services, or goods you sell.

Buy rationed goods only by exchanging stamps.

Don't pay a cent above ceiling prices.

Take a grin-and-bear-it attitude on taxes. They must get heavier.

Pay off your debts. Don't make new ones.

Start a savings account. Buy and keep up adequate life insurance.

Buy more War Bonds.

If we do these things, we and our Government won't have to fight a postwar battle against collapsing prices and paralyzed business.

Use it up
Wear it out
Make it do
Or do without

This advertisement, prepared by the War Advertising Council, is contributed by this magazine in co-operation with the Magazine Publishers of America.

Correspondence

Those "remarkable Consolidations" and the Twelve-Wheeler of the D&H, mentioned in August TRAINS, have been collecting rust at Oneonta ever since they were built. They cost a young fortune to maintain and they went through endless red-tape every time they wanted to touch the boilers. They were so heavy on the drivers that they ironed out the comparatively light track until it was so kinky that it resembled a tar road in the sun. So far as I know, they sit there still, mute monuments to the futile attempt to save on coal and crews.

Robert A. LeMassena, 398 N. Maple Ave., East Orange, N. J.

Who says "I understand the Colorado & Southern No. 60 at Idaho Springs and No. 71 at Central City are both being taken to Denver for repairs and will then be shipped to Alaska" [August TRAINS]? I was just at Idaho Springs and Central City and saw the two locomotives still on display, and a C&S official told me they will not be moved.

Jo Pokotony, Milwaukee, Wis.

Today the one day-local of the Ann Arbor Railroad between Toledo, O., and Frankfort, Mich., is just one last survivor of the good old days. Its usual consist is an old Atlantic of the E class (built 1907 and 1909) or an older Ten-Wheeler of the H class (built between 1899 and 1903). This is followed by two cars: a mail-baggage-express car all rolled into one, and a day coach. The coach is wooden and has stained-glass windows in the ventilators. The windows are the old, wide, arched type, and the seats are the high plush type. To ride this train is just like stepping back about 35 years, but to some people in Michigan it is the only means of transportation, since gas-rationing.

George Silcott, Worthington, O.

In the June issue of TRAINS the Pere Marquette is listed as having 15 of the Berkshire type of locomotive. The PM received 15 on the original order four or five years ago and later received another 12, making a total of 27.

C. D. Phillips, 49 Brown St., S. W., Grand Rapids, Mich.

One thing the army does for a train fan is that it gives him an opportunity to ride trains. When I was called, I left Pittsburgh for Florida, taking the Diesel-powered *Havana Special* from Washington. Then there was a four-days-and-five-nights troop-train ride across the southern portion of the country. I had a furlough in June, and rode the *City of Los Angeles* both ways between Los Angeles and Chicago, and the *Trail Blazer* to Pittsburgh. That makes around 8000 miles, with about half of it furnished by the government.

A/C Paul M. Rotzler, U. S. Army Air Force.

I must confess that I am quite sated with Colorado's narrow-gauges, which, to my mind, derive most of their "following" from the topography of the state rather than any virtue they may have possessed as common carriers. Their passing, while tragic, perhaps, is inevitable and not very important.

2d Lt. Homer L. Horst, U. S. Army Air Force.

Things here in Washington continue on a tremendous scale. Last Summer, in July, the Union Station averaged $72,000 a day, as stated in my story [January TRAINS]. This year the July average was $110,000 a day. And on Saturday, August 7, which was nothing even resembling a holiday, the total take was over $180,000—a record day in the terminal's history. (The record was $130,000 when my story was written last year.)

E. L. Thompson, 1508 H St., N. W., Washington, D. C.

Gift Subscriptions

for men overseas

The Post Office Department has authorized acceptance of bona fide gift magazine subscriptions for members of the armed forces overseas providing they are placed before October 15 and acknowledged to the recipient as a gift. This announcement temporarily waives P. O. D. Order No. 19687, under which written requests from members of the armed forces are required before magazine subscriptions for overseas can be accepted. If you wish to give TRAINS to a soldier friend, do it now, while the order can be entered without postal restriction!

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Trains

Event of the day at Chicago's LaSalle Street Terminal is the departure of the NYC's Twentieth Century Limited for New York.

Courtesy New York Central System.